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# ***JPRS Report***

# **Epidemiology**

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# Epidemiology

JPRS-TEP-91-004

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## REGIONAL AFFAIRS

### Challenges Facing SADCC Nations' Health Systems

#### Failure of Free Health Care

91WE0180 Harare SOUTHERN AFRICAN  
ECONOMIST in English Jan 91 pp 5-7

[Text] When most SADCC [South African Development Coordination Conference] countries attained independence, one of the prime goals of their new governments was to provide free health care to their people. They believed not only that it was right but that it was politically necessary, being no more than the voters expected. But the dream has largely failed because in their rush to create egalitarian systems, the governments ignored a critical consideration: Who was going to foot the bill?

In the developed countries health care for all did not come about overnight. It was a slow process, which in the case of Europe dates back at least to the Middle Ages when the members of certain trades and professions formed guilds to which they paid regular dues to cushion them in times of need. These were the modest forerunners of the medical aid societies whose annual budgets today run into billions of dollars worldwide. It was only a hundred years ago that compulsory health insurance schemes began, the first national scheme being introduced in Germany by Bismarck in 1883.

As the tax bases in the developed countries widened, some were able to provide "free" health benefits to all their people regardless of whether they were on a contributory medical scheme or not. Of course, these services were only free in the sense that the patient did not have to pay for treatment; they were paid for by taxpayers of one kind or another.

In Africa the process was reversed. Governments started with the provision of free health care for all before creating wealth to finance the schemes. The results have mostly been disastrous. Instead of providing free health services for all, some countries have ended up providing no services or very poor ones.

It might have been better if governments had started by recognising that free universal health care was beyond their means and instead concentrated on helping those most in need. That would have meant charging those who could afford to pay, while providing free or cheap services to the poor. In the event, the opposite has often occurred: as health budgets have dwindled under economic difficulties and financial pressures, the little money available has tended to be spent in the urban areas, while health programmes in the rural areas, where most of the poorest people live, have been shelved.

It can also be argued that governments did not take enough trouble to find out what people actually wanted. In countries where a growing proportion of people are

opting to join medical aid schemes or take out medical insurance, it seems clear that their main concern is quality of service rather than just not having to pay. A spokesman for Zimbabwe's largest medical aid society, CIMAS, says that of the 1,000-odd members who join the society every month, most opt for the scheme that entitles them to treatment at private hospitals, even though it costs much more than the ordinary scheme.

A question that government often ignore in their allocation of resources is that of conditions of service in the medical profession. Faced with worsening economic conditions in their countries, and possessing qualifications which are marketable elsewhere, doctors are often the first to leave for greener pastures. They may be called unpatriotic and ungrateful—but that doesn't stop them leaving. It's hardly surprising that individuals place their own needs and those of their families first, even if they can be accused of neglecting the good of society.

How could governments tackle this question of the medical brain drain? There are two possible courses: To try and keep doctors at home by official regulations and restrictions, or to improve their conditions of service. Governments tend to prefer the first approach. For example, Zimbabwe has signed an agreement with Zambia whereby it undertakes not to employ Zambian doctors or bond them for long stretches as it used to. But that will not close off the possibilities of emigration for Zambian doctors. The other option of improving conditions might be more effective.

Governments invariably reply that they have no money. But if they allowed those that could afford to pay for health care to do so, perhaps enough resources would be released to give doctors the little extra they need to make their lives tolerable.

Countries such as Tanzania and Zambia, which banned private health care but allowed church hospitals to continue functioning, have found that as their efforts to provide a decent state health service flounder, the role of churches and non-governmental organisations has become increasingly important. These bodies are not just supplementing government health services but in some cases providing the only real service.

In Zimbabwe, the contribution of the private health sector can be measured by the fact that voluntary membership in medical aid societies has increased from 219,424 in 1980 to 502,325 last year. Its contribution to the health budget now stands at \$120 million dollars (U.S.\$47.4 million) or 26 percent of the total. By taking over responsibility for the better off, medical aid societies and private health care have released resources for the benefit of needier people who would otherwise be crying out for a slice of the same cake.

In Mozambique, where private health practice was banned at independence, the "special clinics" introduced a few years ago to cater for those who could afford

to pay have proved popular despite the fact that consultation fees are as high as U.S.\$15 a visit. The government remains reluctant to allow private health care, which the deputy health minister, Dr. Jose Igregas Campos, argues would be meaningless in a country where 90 percent of the people are poor.

Perhaps an important point the minister misses is that if the 10 percent who could afford to pay were taken out of the free system, the resources available to that system could well benefit by more than 10 percent. For the fact is that if everyone, rich or poor, has to use the same free system, and if resources are severely limited, then access has to be determined by queueing. In that situation, the better off with their contacts and general know-how are well equipped to jump the queue. People like politicians, party officials and senior civil servants can normally arrange that they are not the ones deprived of essential treatment. Since they get special treatment anyway, why shouldn't they pay for it if they can afford to?

Reluctantly Mozambique has begun to introduce an element of cost recovery. Consultation fees have been raised from 7.5 meticaïs to 100 while in-patients now have to pay 500 meticaïs (55 U.S. cents) a day. In the meantime, government spending on health has declined from 12 percent of GDP to 4.4 percent—which amounts to spending only 80 U.S. cents per head each year. The government admits that the user payments are a mere token when compared to the costs of providing the services. But given the continuing war, which has virtually destroyed the health infrastructure, it will take more than mere tokens to provide a decent health service to the people.

The signs are that under the pressure of acute economic stringency, official attitudes are changing. Most SADCC states, including those that have been totally committed to free universal health care, are now firmly behind cost recovery. Zambia is investigating the possibility of establishing medical aid societies along the lines of Zimbabwe's. It has also recently been putting out feelers on how to establish private hospitals.

Namibia, which inherited 32 medical aid societies at independence, most of them "in-house" and catering only for employees of particular companies, is looking at the possibility of setting up a national medical aid society at a later date. Tanzania, which for years resisted the introduction of user fees at its health centres and regarded private practice as taboo, has made the first tentative steps in the direction of spreading health costs by introducing user fees.

There are two important caveats to be borne in mind. If cost recovery is to achieve the objective of improving health services to the poor, it is essential that those who are allowed to pay for a special quality of service must be charged the full cost of providing that service. Otherwise the general service—meaning the poor, and particularly the rural poor—will continue to subsidise the better off. Secondly it is necessary that the savings thus realised

should be channelled into the general health service and not dissipated into general government revenue where it can be spent on anything from official entertainment to arms purchases.

### **Tanzania: Corruption, Brain Drain**

*91WE0180 Harare SOUTHERN AFRICAN  
ECONOMIST in English Jan 91 pp 7-9*

[Text] Of all countries in Africa, perhaps none tried harder or more honestly than Tanzania to build a socialist state, complete with a welfare society where education and health would be a right and every citizen entitled to them as free of charge as is life itself. But with so little in the way of resources, the attempt to provide these services free of charge was probably the straw that broke the camel's back as the economy floundered and nose-dived into stagnation and worse.

Following the Arusha Declaration, Tanzania's blueprint for socialism, the government vigorously pursued the goal of extending basic health services to all its citizens. Emphasis was put on developing rural health facilities and on disease prevention. Clinics were built in all the country's 8,500 villages and up to today the minister of health, Mr. Charles Kabeho, is proud to point to that achievement. "We are happy that every village has a dispensary," he says.

Tanzania adopted the primary health care programme (PHC) following the Alma Ata Declaration of 1978 and since then PHC has been the cornerstone of the national health policy. "Its adoption has provided additional impetus to the current programme to achieve the social goal of health for all by the year 2000," says the assistant chief medical officer in the ministry to health, Dr. Joseph Temba.

The ministry has drawn up a long term strategy aimed at raising life expectancy from the present 55 years to 60 years by the year 2000 and reducing infant mortality from the rate of 176 to 1,000 to 50 to 1,000. By then, the government says, every village will be running its own health service with the state providing drugs and equipment. The programme will also strengthen management of health services at different levels by training and retraining medical personnel.

The health ministry has started training village health workers. "The aim is to have two village health workers in each of the 8,500 villages but giving priority to those villages without a health facility," Temba says. The ministry will also work closely with public companies which have their own health facilities to ensure that drugs are distributed regularly.

Health centres were designed to serve up to 50,000 people each and the dispensaries to cater for up to 10,000 people. Between 1972 and 1980, the number of health centres increased from 100 to 239 while the number of dispensaries went up from 1,500 to 2,600. By

1980, nearly 70 percent of the country's 24 million people were living within five kilometres or less of a health unit.

Currently there are four referral hospitals, 17 provincial hospitals and 98 district hospitals. Provincial hospitals, which serve on average about 250,000 people, also double up as referral centres serving the districts. The churches, which have always played a major role in providing health services, run 69 hospitals and 400 dispensaries and 23 health training colleges in the country. The government meets part of their running costs by an annual grant of U.S.\$7 million.

On the manpower side, Tanzania is not so well provided for a country of 24 million people. Although it produces 400 nurses per year, only 30 doctors graduate from its university each year. Currently there are 978 doctors and 12,641 nurses practising in the country. Other medical personnel include 4,506 rural midwives and 3,836 medical assistants, 10,414 rural medical assistants. The number of doctors falls far short of requirements with one doctor serving 25,000 people compared to 21,700 in 1965.

Salaries for doctors are appallingly low, averaging about U.S.\$35 a month. The country is losing its few locally trained doctors to the Middle East and to other African countries which pay better. According to the ministry of health, several students sent abroad for medical training never came back after graduation.

As if that were not enough, the government's health plans have become a casualty of the economic crisis and in particular the belt tightening demanded by donors financing the economic recovery programme (SAP). When SAP was introduced in 1986, the health budget was axed from an already low level of 7 percent of recurrent expenditure in 1972-1982 to below 5 percent. The present allocation works out at eight shillings per head (less than 10 U.S. cents). The reduced allocation for health is beginning to be felt in the severe shortage of drugs and medical equipment. "The deterioration of the health services threatens the gains achieved during the past decade," says a senior medical officer in Dar es Salaam. The situation has been made worse by the shift of donor support from the social to the productive sectors, in line with the government's new priorities in its reform programme.

The low spending on health and the poor state of the economy have spawned an old problem—corruption. Although essential drugs are in short supply they somehow seem to manage to turn up in their numbers in hospitals where the dispensers have "other" arrangements. Cases have been reported where hospital doctors will prescribe drugs but only those prepared to pay a fee to the person dispensing them can get them, despite treatment being free under Tanzania's health service system. There is a pending case in the courts where a

laboratory technician is being charged with selling blood for transfusion to patients at 24,000 shillings (U.S.\$20.5) per litre.

In another bizarre case, a medical assistant in northwest Tanzania was reported to have demanded a bribe of 7,000 shillings before attending a woman in labour. Police were alerted and the man was subsequently arrested. When his home was searched he was found with drugs from government stores worth U.S.\$770.

Despite the problems it is facing in delivering a decent health service, the government has no plans to allow private hospitals into the system. Apparently such action would not be in the interest of the people—so the people are told. All government and parastatal-run hospitals continue to provide free medical services while church hospitals charge a token fee. But due to drug shortages in government hospitals, many people now prefer church hospitals whose grants from the government are often topped up by the overseas churches and benefactors.

Although operating private hospitals is illegal, many doctors, fed up with the low pay and few benefits in the public service, now choose to work in private hospitals set up under the umbrella of church organisations, which now cater for about 50 percent of the country's health services. But early this year the government passed a new ruling which now allows doctors to work part time in private hospitals, in a move to retain them.

Despite its economic problems, Tanzania can be justly proud of being among the few countries in Africa to have achieved more than 80 percent immunisation coverage. But a new threat in the form of AIDS now looms on the horizon. More than 16,000 cases of full blown AIDS have been diagnosed with 7,000 of these being children. Statistics show that about half a million people will be infected with the disease over the next five years. "People are very much aware of the disease but they haven't changed their sexual behaviour," laments Mr. Blastus Mwizarubi, a medical officer with the Africa Medical Research Foundation's Tanzania office. With its health services already strained to the limit, it is difficult to see how Tanzania will cope with the new scourge.

#### **Botswana: Government Planning Praised**

91WE0180 Harare *SOUTHERN AFRICAN ECONOMIST* in English Jan 91 pp 9-11

[Text] The Botswana government is often put forward as a model of prudent spending. This certainly seems to apply to its health policies, where despite a buoyant economy, it has avoided a commitment to free health care for all, the blind alley where many African governments have found themselves trapped.

Recently the government passed legislation aimed at encouraging the private sector to play a more active role in health. Says the ministry of health: "The bill seems to



be yielding results with a private hospital already taking shape on the outskirts of Gaborone."

Although Botswana never introduced free health care, the system is highly subsidised. For instance, a visit to any government health facility costs only 40 thebe (20 U.S. cents) including drugs. The health ministry says that charging a flat fee is no longer appropriate as it often results in the misuse of referral centres and is not in line with the government's policy of recovering costs through user charges. "The recovery of a large portion of costs through more appropriate fees and charges would make the health care standard obtained at any stage more sustainable," it argues.

Four percent of Botswana's total budget is set aside for health. This is not a high percentage in itself, but given the large revenues from diamonds and the small population it means that health spending per head is between U.S.\$40 and U.S.\$45. With those resources (Mozambique can only afford 80 U.S. cents per person) it is no wonder that the mortality rate for the under-fives went down from 174 in 1960 to 92 in 1988 while immunisation coverage has risen to 85 percent for children under one year.

At the same time, an increasing proportion of the country's health spending is being met by medical aid societies. This year the government formed the Botswana Public Officers Medical Aid Scheme, which caters for civil servants. Before that, the Botswana Medical Aid Society (BOMAS) had been in operation since 1970. Its 8,000-plus members consist of companies and their employees. Companies contribute half of their employees' subscriptions. The benefits for members include 90 percent reimbursement of medical expenses covering areas such as general medical, chiropractors, surgical and medical appliances, speech therapy, clinical psychology, maternity, dental, optical, drugs and medicines and orthodontic treatment.

For a country with a scattered population Botswana has a comprehensive network of health facilities with 308 health posts, 178 clinics, 13 health centres, seven district hospitals and two referral hospitals. As a result, 89 percent of the population has access to health facilities and 85 percent lives within the recommended range of 15 kilometres from a health facility.

Droughts are extremely frequent in Botswana and to protect vulnerable groups—pregnant and lactating women, children and the elderly—the government introduced drought relief programmes in the rural areas and supplementary feeding programmes at schools. During the 1985/86 drought, for instance, about 680,000 people or 60 percent of the population were covered by the programme, which was run at a total cost of U.S.\$42 million with the Botswana government meeting half the cost and the rest coming from donors.

But natural disasters aside, the government is taking the line that with growing prosperity the people should become more self-reliant. In the health field this means

that those who can afford it should pay more of the cost of the services they receive either through medical aid schemes or on their own account. The government can then concentrate its efforts on the genuinely poor. It is ironic that the SADCC country which could best afford to provide universal health care is the least inclined to do so.

### **Zambia: Population Pressure**

*91WE0180 Harare SOUTHERN AFRICAN  
ECONOMIST in English Jan 91 pp 11-12*

[Text] Zambia's health services have deteriorated drastically over the past decade as the effects of the collapse of copper prices have taken their toll on the mono-economy. However, a look at the past shows that the government put a big effort into providing a good health service to its people when it could afford it.

At independence there were only 48 hospitals and 306 health centres. By 1975 the number had risen to 79 hospitals and 670 health centres. In the next decade up to 1984, an extra three hospitals and 175 health centres were built. Plans to build another 20 hospitals under the third national development plan (1979-1982) were, however, shelved when the economy started to flounder.

Zambia's 3.5 percent population growth rate is straining the health services. The present medium age of the population is 15.5 years and will decrease to 15.2 years by the year 2000. This rapid population growth has accentuated the pressure on the provision of health services.

The pressure is greatest in the urban areas where the natural population growth rate and rural urban migration have led to rapid increases in the urban population. At present about 30 percent of the urban population is not covered by health services.

As Zambia's economic woes have increased, the country has been forced to introduce user fees in education and health, both of which had been free since independence in 1964. Boarding fees at schools were re-introduced in 1986, resulting in some 4,000 pupils dropping out of school as their parents could not afford to pay. A year later user charges were introduced at Lusaka Teaching Hospital (UTH) for various non life saving services such as medical examinations, X-rays, autopsies and international vaccinations. Fee charging has now spread to all hospitals and health centres.

Introducing some form of cost recovery in health was long overdue. The collapse of the copper market in the mid-1970s signalled the end of the fragile welfare society in the mono-economy. By the 1980s, the standard of health services at government hospitals had deteriorated to such an extent that essential drugs were no longer available and patients often had to buy their own medicines. In-patients had to rely on food from friends and relatives when government recurrent grants ran out.

President Kenneth Kaunda put it bluntly thus: "We have to accept the reality that we can no longer afford it (free medical services)."

The state of children's health is as good an indicator as any of a nation's health status. In the case of Zambia, child mortality rates (death of children below five years of age) have increased sharply over the last few years with malnutrition now accounting for 40 percent of all child deaths compared to just 13.1 in 1976.

A survey carried out in 1987 showed that in the first five months of that year, protein energy malnutrition (PEM) accounted for 17 percent of all child admissions at UTH and for a staggering 37 percent of child deaths there. By the end of the same year, a sharp increase was recorded in child deaths at the hospital with malnutrition as the chief cause in 48 percent of the cases.

Since only the most severe cases of PEM result in hospitalisation, these figures are only a tip of the iceberg. Other diseases taking their toll are maternal malnutrition, malaria and anaemia. At eight percent of total expenditure government spending on health is appallingly low. By contrast constitutional and statutory expenditure, which in the absence of an energetic debt servicing programme must be mostly for defence, takes up 30 percent of total expenditure.

The under-capitalisation of health institutions is perhaps illustrated by the paltry budget allocated to UTH. In 1990 the hospital, which caters for more than 1.2 million people, received an operating grant of only 200 million kwacha (U.S.\$5 million). But its executive director, Dr. Isiah Yikona, says the hospital needs at least Z1 billion (U.S.\$25 million) to function properly.

The hospital gets only 2 million kwacha from user charges. As a result health care standards have fallen sharply, with many patients sleeping on the floor. Some companies have come to the rescue by "adopting" wards or clinics. The National Commercial Bank, for example, has given 4 million kwacha to renovate UTH's congested filter clinic. But crumbs like this, however commendable, can hardly be a dependable way of financing such a vast complex as the UTH.

For a long time now the allocation for drugs has not been adequate and is now 35 percent below requirement. But apart from drugs, Zambia's health services have also suffered as a result of an exodus of doctors who could not stomach the poor conditions of service and low salaries. The government is now trying to improve their lot and in June 1990, like other civil servants, doctors were awarded 85 percent salary increases. In addition they now get an allowance of 36,000 kwacha a year for non-private practice, while those occupying unfurnished quarters get an extra 24,00 kwacha a year in furniture allowances.

In 1988 Zambia had only 503 doctors for an establishment of 986 and 75 percent of these were expatriates.

Since the university of Zambia started training doctors in 1973, it has produced only 140, with 103 of them still in government service.

Officials in the planning unit of the health ministry expect the number of Zambian doctors to increase by between 200 and 225 during the fourth national development plan (1989-1993). They expect that by then the school of medicine will be turning out 50 doctors a year and the ratio of Zambian doctors to expatriates to have risen from 28 percent in 1989 to 44 percent in 1993.

Although more than 80 percent of the health centres are in the rural areas, the geographical distribution of medical staff is skewed. About 75 percent of the medical personnel work in the three provinces along the line of rail where 57 percent of the population lives while 82 percent of all the doctors are concentrated along the line of rail and 40 percent of all government doctors work in the UTH.

The worsening state of health services in government hospitals has forced the Churches Medical Association of Zambia (CMAZ) to reclaim its 30 hospitals and 19 rural health centres scattered throughout the country. These institutions now provide better facilities than government hospitals.

In rural Zambia, church-run health institutions provide over 50 percent of the health services. As the churches also deliver health care for free, it has been difficult for them to make ends meet from the government grant-in-aid which has fallen from the 11 percent of the national health budget in 1978 to about 6 percent in 1989. It is to alleviate the financial constraints that church-administered health institutions have also started charging fees.

A new player on the national health scene is Zambia Consolidated Copper Mines (ZCCM) which runs two hospitals apiece at Luanshya, Mufulira and Nkana—one fee-paying and the other non-fee paying. It also has dual fee and non-fee-paying wings in Kabwe, Chililabombwe, Kalulushi and Chingola. ZCCM also operates clinics in the mine townships and plant areas.

The hospitals operate a two-tier system: A contributory scheme where employees make monthly payments to cover their health costs and a non-contributory, low cost scheme where services are free. As part of a rationalisation programme, an autonomous body known as the Medical and Education Trust (MET), was created in 1988 to run health services and schools on a commercial basis. Companies, including ZCCM, and private citizens wishing to join the scheme become members by paying a stipulated monthly contribution to the scheme.

Since MET took over mine hospitals, it has registered more than 5,500 members on its medical scheme and during the first quarter of 1989/90 private patients paid 4.6 million kwacha in fees alone—a sizeable contribution to their health costs.

**Zimbabwe: 'Impressive' Statistics**

91WE0180 Harare SOUTHERN AFRICAN  
ECONOMIST in English Jan 91 pp 12-15

[Text] First the good news. Zimbabwe's health statistics make impressive reading. Since independence in 1980, infant mortality has declined from 140 per 1,000 live births to 50 in 1989. Over the same period, full immunisation coverage has increased from 25 percent in 1982 to 70 percent in 1988. Some 72 percent of all babies are delivered at health facilities of one kind or another.

Since 1980 over 450 health centres have been rebuilt and 321 new ones put up. There are 28 government district hospitals with a total of 2,492 hospital beds. These figures do not include the 60 hospitals and 53 clinics run by churches, or those of urban authorities, who have their own clinics and hospitals.

Even in family planning—still considered bedroom talk in other countries—Zimbabwe has the highest contraceptive prevalence levels in Africa, at 43 percent against 14 percent in 1982 and an average of five percent for the rest of Africa. The availability of essential drugs is about 60 percent of estimated need, compared to 43 percent before independence. This year the government has allocated 61 million dollars (U.S.\$24 million) for drug procurement. The health ministry says drugs would be even more available were it not for "logistical problems" which hamper distribution. Since independence, 971 village health workers have been trained, as well as 2,345 traditional midwives (up to the end of 1988).

Now the bad news. Beneath these heartening figures Zimbabwe's health system is creaking with stress. At independence the new government inherited a lopsided system which heavily favoured the urban areas. Obviously this had a lot to do with the racial distribution of the population. Over 70 percent of the curative health budget went to the central hospitals in the two major cities, leaving less than 30 percent for the rest of the country.

Since independence the thrust of government policy has been to reverse that situation, but up to last year Parirenyatwa Hospital in Harare was still getting the equivalent of 76.1 percent of the total grant going to all missions.

The situation is now changing, with mission hospitals starting to get a larger chunk of the health budget. Over the past three years their grant has increased from 24 million dollars (U.S.\$9.6 million) in 1988/89 to 28 million dollars (U.S.\$11.2 million) in 1989/90 and 35 million dollars (U.S.\$14 million) in the current year. This is both fair and sensible considering that mission hospitals provide just under 50 percent of all rural hospital beds.

Even now, the formerly black hospitals are still overcrowded and undercapitalised and have poorer facilities than those once reserved for whites. As recently as 1988, the paediatric wards at Harare Hospital had a mean bed

occupancy of 111.7 percent against 93 percent for Parirenyatwa. Harare Hospital still handles one and a half times as many patients as Parirenyatwa, but is much less well equipped.

For a few years after independence the ZANU-PF government was unsure how it could reconcile private health care with its Marxist ideology. The then minister of health, Dr. Herbert Usehewokunze, castigated private doctors and accused them of profiting from the ill health of the community. "Such profit-motivated parasites, feeding off their own people and ignoring the general plight of the community, should under no circumstances be tolerated," he said.

However, that attitude has been changing over the years and the government now thinks in terms of partnership with the private sector. As the new minister of health, Dr. Timothy Stamps, puts it: "Anybody who is doing something in the health field has a beneficial effect on the overall health picture. I see no reason why we should interfere in the provision of private health care if the beneficiaries can pay for it."

At independence Zimbabwe resisted the temptation to promise free health care to all its citizens. Instead only those earning below 150 dollars (now U.S.\$60) a month were eligible. But at that time the statutory industrial minimum wage was 85 dollars (U.S.\$34) a month. It has since risen to 202 dollars (just over U.S.\$80) a month although the ceiling for free health has not been raised. As a result, the number of people covered by free health is dwindling.

Dr. Stamps says he has no intention of raising the ceiling. "Anybody in the cash economy should be made to pay something towards health costs," he says firmly. "The old idea that free health is a right for all has been proven to be a bottomless pit. At the same time, I believe that there should be no economic cause for depriving anybody of health care."

Fees at government hospitals are on a sliding scale. At Parirenyatwa hospital they range from 5 dollars (U.S.\$2) a day for those earning between 150 dollars and 300 dollars a month to 35 dollars (U.S.\$14) a day for those earning above 800 dollars (U.S.\$320) a month. Medical aid members are charged a flat rate of 35 dollars a day irrespective of income. But the fees are nowhere near enough to cover costs. The unit costs for in-patients at Parirenyatwa hospital are now estimated at well over 200 dollars (U.S.\$80) a day, so although the government advocates the idea of cost recovery it does not practise it.

Dr. Stamps is aware that the fees are low but says increasing them is not the immediate solution. Rather the ministry should set up a more efficient way of collecting fees. "We must improve our billing and accounting systems at the hospitals before we look at increasing fees," he says. "At present we are not even collecting all the fees we charge."

Zimbabwe spends 4.8 percent of its GDP on health. Dr. Stamps would like to see this increased sharply, to about 11 percent, but he is aware that given the budget deficit and the strenuous attempts being made to reduce it, spending on health might be slashed instead. Such a thought makes him bristle. "I will resist it with every fibre of my being," he says. "I was appointed to preside over health and not over mortuaries." He argues that it is a fallacy to say that investment in health is non-productive, pointing out that "without healthy workers the economy can't produce."

Money is not the only problem facing the health services. There is a critical shortage of staff, especially doctors. Although student intake at the medical school has gone up from 40 in 1980 to 80 in 1987 there hasn't been a corresponding increase in the number of doctors. In 1988 there were only 1,201 doctors registered in the country compared to 1,342 two years earlier. Somehow 141 had vanished. The ministry of health says the country requires 3,000 doctors to operate an efficient health service. But at the rate at which they are being produced—and lost—that target is never going to be reached.

Even within the local scene, the government is losing doctors to the private sector. In 1987 there were 1,243 doctors registered in the country of whom only 518 were in government practice. A mere 7 percent of the doctors trained at the University of Zimbabwe work for the government; the rest have either joined the private sector or emigrated. The public health sector, as well as mission hospitals, have been forced to rely heavily on expatriates.

The reason for the exodus is simple. Doctors in private practice earn about five times as much as those in government service. And they do less work. Government doctors complain that they work anything up to 120p hours a week, compared to the 40-hour week of the normal worker. They are paid no overtime. Until last year their salaries were as low as Z\$22,000 (U.S.\$8,800). Church hospitals have an extra problem attracting staff because accommodation at rural hospitals and facilities is often rather rudimentary.

To stop the dual brain drain of doctors, both from the country and from the public sector, conditions of service have been improved. District hospitals now offer better and cheaper accommodation, while doctors at church hospitals can now join the public service and enjoy the same benefits as civil servants.

When the staffing situation appeared out of control, the government introduced other harsh measures to retain staff which could very well backfire and make the situation worse. On graduating, doctors have to serve a two-year internship followed by a three-year stint "at a designated hospital" before they are allowed to go into private practice. But doctors have other options including emigration. Those regulations still stand but Dr. Stamps would like to see them scrapped. He has

asked the Health Profession Council and the Medical Association to look at them and propose amendments.

The medical school is also short of lecturers and is operating at 61 percent of its complement. "We just can't fill the vacancies because there are not enough qualified Zimbabweans and our conditions of service are not attractive enough for foreign lecturers," says the dean of medicine, Dr. Abraham Harid.

Like other sectors of the economy, health has been hit by foreign currency shortages which have affected transport most. In 1988 Zimbabwe needed about 5,000 ambulances—but possessed only 134, of which 50 had broken down. Dr. Stamps calls the ambulance shortage "disastrous" and says it makes a nonsense of the country's primary health programme. "We are putting a lot of money into preventative health," he says, "but unless we can bring emergencies to hospitals then it is meaningless."

On the positive side, the government has shifted the emphasis to some extent from curative to preventative health. Between 1980 and 1988, the medical care budget was reduced from 90 percent of the total to 82 percent while that for preventative health increased from 6.7 percent to 14 percent.

Zimbabwe faces essentially the same health care problems as other African countries: Demand is potentially unlimited, while the supply—of money, foreign exchange, equipment and qualified staff—is severely constrained. Its relatively developed economy and infrastructure give it an advantage over most, and this, together with some sensible policies, such as refraining from a commitment to free health care for all, and not banning private practice, have enabled it to score useful successes over the past decade. But the relentless combined pressures of rising population and financial stringency inevitably make for increasing stress.

In the long run only economic growth can solve the problem. But meanwhile, and once it has sorted out its fee collecting procedures, the government would be well advised to do everything it can over time to increase the proportion of the costs it recovers from those who can afford to pay.

#### Malawi: Population Growth, AIDS

91WE0180 Harare SOUTHERN AFRICAN  
ECONOMIST in English Jan 91 p 32

[Text] Malawi's high population growth rate, 3.5 percent per annum, combined with its limited resources is causing its health planners a headache: they cannot see their way to continuing to provide free health care to the 8.4 million people.

The statistics are bleak: There is one doctor to 66,000 people; the country has only 15,000 hospital beds; diseases such as malaria and tuberculosis are big killers while essential drugs and medical equipment are in short supply.

In 1986 Malawi launched a ten-year health programme which focuses on three crucial areas: primary health care (PHC), maternal and child health (MCH) and water and sanitation. The government sees these as being central to the improvement of people's health, especially that of children.

The PHC concept involves teaching people basic hygiene, sanitation and providing clean water. According to the PHC co-ordinator, Fred Bangula, emphasis is also placed on involving the community in the delivery of basic health services. "For example," he says, "volunteers in the villages monitor the health of children under five years of age."

Maternal and child health teaches mothers child care, nutrition, health education. It also encourages parents to immunise their children against the six child-killer diseases—tuberculosis, diphtheria, tetanus, whooping cough, polio and measles. At present, 21 percent of child deaths in Malawi are caused by diseases which can be prevented with vaccination. Since 1988, Malawi has doubled efforts to immunise children. The health ministry set a target of 80 percent immunisation coverage by the end of 1990, up from the 63 percent achieved in 1988. To facilitate the work a campaign was launched. Under it about 2,000 static and mobile clinics were established to carry out immunisation and ante-natal programmes.

President Kamuzu Banda gave the campaign an added impetus in 1988 when he signed the Grand Alliance, which is a package of child survival and development strategies being carried out with the help of the United Nations' Children's Fund (UNICEF).

Cerebral malaria is another child killer responsible for about 4,000 child deaths a year. Specialists from Britain and Malawi are working jointly to fight the disease. They are studying its incidence and assessing the effectiveness of new treatments. Findings so far suggest that young children are most prone to cerebral malaria because they have no resistance to the disease.

But like other countries in the world, Malawi now has a new enemy on its hands—AIDS. In November 1989 the number of confirmed AIDS cases stood at 7,160. An AIDS awareness campaign has now been launched using all the existing media. At a recent donors conference in Lilongwe the government raised U.S.\$4.2 million for the AIDS campaign. The European Community has given nearly U.S.\$1 million for information, education and communication activities to prevent the spread of AIDS while USAID gave U.S.\$455,000 for a demographic and health survey which will provide planners and policy makers with up-date information on AIDS, fertility, mortality, and family planning practices.

Apart from issuing free condoms at all government hospitals, the ministry of health has also set up blood screening centres at central and mission hospitals.

The Private Hospital Association of Malawi (PHAM), which groups about 150 private hospitals, co-ordinates the activities of church hospitals and facilitates cooperation with the government. Some PHAM hospitals run training schools for nurses, midwives and medical assistants. The government gives the hospitals grants which cover the salaries of local staff and also provides drugs for treatment of diseases such as TB, leprosy, bilharzia and sexually transmitted diseases.

PHAM hospitals operate two types of services; one for the poor where basic services are provided for a very low fee. Facilities under this scheme are rudimentary and include hostel accommodation where many patients share large rooms. There are 4,839 hospital beds under this scheme. The other type of scheme is for the better off who are prepared to pay for more comfortable facilities. In general, fees charged under this scheme are higher than at government hospitals and patients have private wards.

Private hospitals which do not come under PHAM charge higher fees as they are entirely self-supporting. Up to now, the government has not interfered with the fees they charge, which for the most part can only be afforded by expatriates and rich locals. But the recent formation of the Medical Council of Malawi—one of whose duties is to regulate fees of private medical practitioners—may see the introduction of more standardised fees.

The Medical Aid Society of Malawi (MASM) is the largest in the country and is a member of the International Federation of Voluntary Health Services Fund of the United Kingdom. At present MASM has 26,000 members who have access to 18 doctors. MASM offers two schemes: the general and basic schemes. The general scheme provides members with medical care by general practitioners in private and public practice, specialists in government or private hospitals and foreign medical services including drugs. The basic scheme, as its name implies, provides members with medical services from general practitioners in the country. The basic scheme does not meet the costs of treatment outside the country.

Contributions to the different schemes also vary. Members on the general scheme pay U.S.\$11 a month (those earning above U.S.\$308 per month), while those on the basic scheme pay a flat fee of U.S.\$4 dollars. Medical aid societies, however, mostly benefit people living in cities such as Blantyre, Zomba and Lilongwe as doctors have opened private practices and hospitals, two of them in Blantyre offering 20 beds.

Malawi is trying to solve the shortage of health personnel, especially qualified doctors, by establishing its own U.S.\$25 million dollars medical school in Blantyre which will produce between 17 and 20 doctors every year. The government also hopes that by establishing its own medical school it will get over the problem of the brain drain where in the past doctors who were trained abroad never returned home because of the low salaries

paid. At present there are 90 expatriate doctors against 30 Malawians practicing in the country.

District and mission hospitals are vastly undermanned having on average only one general practitioner each. The few specialists in the country are confined to the central hospitals in Blantyre and Lilongwe and Zomba general hospital. A three-year degree programme in nursing has now been introduced. In the past such training was only available outside the country. But under the new programme, 10 students will be admitted for the degree programme each year, which will increase the number of nurses with university education. Meanwhile, the School of Nursing at Zomba General Hospital is being expanded to increase the student intake to 60 a year.

Students in dental, eye, pharmacy and general diseases are trained at the Lilongwe School for Health Sciences, where a minimum of 40 students graduate each year in various fields. With the present shortage of health personnel, all those who train in the various medical fields are absorbed by the government or mission hospitals. But with plans to build more district hospitals, there will be a need to train more personnel to cater for the population which has doubled in just 26 years since independence.

#### **Mozambique: War Destroys Successes**

91WE0180 Harare SOUTHERN AFRICAN  
ECONOMIST in English Jan 91 p 33

[Text] At independence in 1975, Mozambique inherited a fragmented health service, with different bits of it run by the state, individuals, church organisations, the army and urban authorities. The only common feature among the various institutions was their emphasis on curative rather than preventative health. Most of them were concentrated in the urban areas and catered for the better-off.

The new government set about reorganising the system in the hope of making it more equitable. One of the first steps it took was to nationalise health care. But having brought the sector under its control, the government immediately found itself facing a critical shortage of manpower. As many as 500 of the 580 doctors living in the country in 1974 left at independence as part of the massive exodus of white settlers. Undaunted, the government launched an ambitious programme to bring health care to all with emphasis on basic care in the neglected rural areas.

The programme was a big success. After ten years, the number of peripheral health units throughout the country had risen from 428 to 1,415, reducing the average distance rural people had to travel to their nearest health centre from 25 to 13 kilometers. At the same time as it was building infrastructure in the countryside, the government launched a massive training

programme ranging from village health workers to basic and medium level nurses and health technicians whose numbers went up threefold.

Vaccination campaigns against the main child killer diseases were carried out across the country and the average coverage went up to 80 percent. Infant mortality was cut drastically. The programme required a lot of money. By 1981 health accounted for 12 percent of the total budget compared to 3.3 percent before independence. Per capita spending on health rose from U.S.\$1.5 in 1974 to U.S.\$5.4 in 1984—still very low, but a big improvement all the more so because it was targeted at those most in need.

The deputy minister of health, Dr. Jose Iqreqas Campos, says with justifiable pride: "It is not mere rhetoric when we say health care is one of the greatest achievements of our revolution. We took health to remote areas of the country where there was no history of conventional medicine and traditional medicine reigned supreme."

During this period the government was spending heavily on health, but recovering very little in the way of fees. A flat fee of 7.5 meticaïs (then around 20 U.S. cents) was charged for consultation and treatment, including surgery.

But by 1982 destabilisation was beginning to take its toll and one of the primary targets of the Renamo bandits was health infrastructure. A recent study by Drs. Abdul Razak and Julie Cliff found that about 1,000 health centres have been forced to close as a result of the war, with a third of them destroyed. Besides levelling the buildings, bandits looted or forced the closure of seven rural hospitals and destroyed 35 ambulances. They also killed and kidnapped a large number of health workers.

The war has disrupted transport networks and cut off the few health centres still in operation from their sources of supply. The number of doctors working in the countryside has also fallen drastically. In 1983 every district in northern Nampula and Zambezia provinces had a doctor, but now none are working outside the provincial capitals. In 1986, 31 doctors were working in the rural areas, giving an unhealthy ratio of one doctor to 398,000 people. As a direct result of the war, about three million people no longer have any access to health care. But the impact goes beyond these grim statistics. As the war intensified, more financial resources were diverted to defence at the expense of health. Between 1981 and 1988, spending on health fell from 12 percent of the budget to 4.4 percent and per capita spending dropped sharply to only 80 U.S. cents. Dr. Iqreqas Campos concedes that the decline was partly the result of demands by the IMF and the World Bank who advised the government to abandon its "populist health system" as part of its structural adjustment programme.

## ANGOLA

**KUP Reports Cholera Outbreak in Luanda, Cuanza Norte**

*MB0901201791 (Clandestine) KUP in English to Southern and Central Africa 1910 GMT 9 Jan 91*

[Text] Jamba, Wednesday Jan 9—A fresh outbreak of cholera has been reported in the northern Angolan provinces of Luanda and Cuanza Norte.

According to reports, the epidemic has already claimed several lives most of them children. The situation is aggravated by lack of medicine in hospitals.

The reports add that the epidemic is due to a breakdown in the MPLA's [Popular Movement for the Liberation of Angola] municipal refuse collection and health services in the affected regions.

**Cholera, Measles Outbreak in Uige Province**

*MB2201182991 (Clandestine) KUP in English to Southern and Central Africa 1600 GMT 22 Jan 91*

[Text] Jamba, Tuesday January 22—Cholera and measles epidemics are reported to have broken out in the Angolan province of Uige.

Informed sources disclosed today that the diseases have already claimed many lives, especially of children aged one and ten years since the outbreak of the diseases a few days ago. The provincial capital city, Uige is the most affected area.

In a separate development, the Luanda government has imposed a dusk to dawn curfew in the city, following sporadic shootings amongst disgruntled MPLA [Popular Movement for the Liberation of Angola] soldiers in which many innocent civilians have lost their lives in crossfire.

Meanwhile, war handicapped victims in the same town are reportedly roaming streets assaulting marketeers with their crutches and snatching [word indistinct].

Over the past few months there have been reports of acute hunger among former MPLA soldiers who are now disabled by war.

**Malaria Kills 231 People in Cabinda 1990**

*MB3001090291 Luanda Domestic Service in Portuguese 1900 GMT 29 Jan 91*

[Text] A report from Cabinda Province's community services says that 231 people died of malaria in Cabinda Province in 1990. The document adds that in December the disease reached endemic proportions due to ecological and environmental problems.

The situation has been aggravated by the shortage of fuel, particularly gasoline, for vehicles used in the campaign against mosquitoes and other insects.

**First Quarter 1990 Vaccination Figures**

*91WE0167C Luanda JORNAL DE ANGOLA in Portuguese 6 Dec 90 p 3*

[Text] Some 8,730 citizens received tetanus, diphtheria, and BCG [Bacillus Calmette-Guerin] vaccinations during the first quarter of 1990, the Angolan news agency Angop has learned from sources linked to public health in this city. According to one source, 36 cases of pulmonary tuberculosis, 123 cases of leprosy [Hansen's disease], and 1,380 cases of tetanus were reported during the same period. The Public Health Service treated 5,052 patients with diarrhea, whooping cough, and malaria. The diseases most frequently seen in Lunda-Sul are acute diarrhea, respiratory ailments, and measles; they were responsible for 35 deaths.

**KUP Reports Shortage of Medicines in Huila Province**

*MB1501122591 (Clandestine) KUP in English to Southern and Central Africa 1212 GMT 15 Jan 91*

[Text] Jamba, Jan 15—Large numbers of villagers in the southern Angolan province of Huila risk dying because of a continued shortage of medicines.

Sources in the area told K.U.P. news agency that MPLA [Popular Movement for the Liberation of Angola] government hospitals in the area, including the mission-run Caluquembe hospital, are facing serious shortages of medical drugs. Many patients, especially children, are dying every day from such ailments as malaria because of the medicine shortages.

Most villagers are unable to cope with the high prices charged for medicines on the black market, the only place where these can be easily found, thus forcing many of them to resort to using herbs.

According to the sources, the serious famine which has gripped the area over the past two years due to prolonged drought, has made the situation even worse. An increasing number of people are daily starving to death.

**Livestock Vaccination Campaign in Huila**

*91WE0167B Luanda JORNAL DE ANGOLA in Portuguese 6 Dec 90 p 3*

[Text] Some 67,850 head of cattle have been vaccinated this year to date in Quipungo Municipio (Huila Province) by the livestock services administration.

According to Claudio Julio, director of the sector, this figure represents an increase of about 40 percent over the last two years. Last year, the source said, there was no vaccination campaign, permitting the spread of contagious pneumonia, symptomatic anthrax, and tuberculosis, leading to the high death rate among the cattle in that area.



In addition, the drought gave rise to malnutrition and hence affected the physical condition of the herd, which was the primary reason for the failure to meet the beef marketing plan.

In Quipungo Municipio, the drought led to the death of 3,000 head of cattle. The situation was aggravated by the lack of means to transport the vaccination brigades to the areas where the herds are concentrated and the failure of the herdsmen to report to the vaccination posts.

## KENYA

### Fifty Die From Meningitis Outbreak Since December

EA0601182091 Nairobi Domestic Service in English  
0400 GMT 6 Jan 91

[Excerpt] Fifty patients out of 389 admitted in various hospitals in Kericho District [Rift Valley Province] have died since last December following an outbreak of meningitis disease in the area. This was revealed by medical reports available at the hospital. A survey by the KENYA NEWS AGENCY in the affected areas, namely Konoin, Buret, and Bomet Divisions in the district, revealed that the majority of those admitted and those who have died are mainly children aged under 15. [passage omitted]

## MAURITIUS

### 'Drastic Decline' in Tuberculosis

AB3001083691 Dakar PANA in English 1343 GMT  
29 Jan 91

[Text] Dakar, 29 Jan (PANA)—Tuberculosis, a contagious disease which had been predominant in Mauritius in recent years, has witnessed a drastic decline, according to a report released by a competent authority in the Indian Ocean island nation. The report, published in Port-Louis recently, indicated that only 119 cases of the disease were recorded in 1990 as against 400 cases recorded annually in the 1970s and 1980s. It ascribed the progress made in combatting the ailment to vaccination, timely examination of close relations of the patients and treatment in hospital.

All persons afflicted by tuberculosis, the reports stated, are treated in a specialist hospital for two months adding that once the patient is discharged from the hospital, he or she is attended to at home on a regular basis by a doctor until he or she is totally cured. In addition, persons close to the patient undergo medical examination to ascertain if they are infected for prompt treatment. The third phase in the fight against the disease involves vaccination, currently given to all newly-born babies in the country. The three measures have contributed to the considerable fall in the mortality rate from tuberculosis in Mauritius, the report added.

## MOZAMBIQUE

### Measles, Malnutrition Kill 14 Children in Mogovolas

MB1501184591 Maputo Domestic Service in Portuguese  
1730 GMT 15 Jan 91

[Excerpt] Measles and malnutrition killed at least 14 children of school-going age in Nampula Province's Mogovolas District between February and August 1990. This was disclosed by a source from the Nampula branch of the Save the Children humanitarian organization. [passage omitted]

### Sofala Officials Seek To Prevent New Cholera Outbreak

MB0901203691 Maputo Domestic Service in Portuguese  
1900 GMT 9 Jan 91

[Text] Health authorities in Sofala Province are currently carrying out an intensive education campaign among the people to prevent a new outbreak of cholera in the province. Over 20 people died of cholera in Sofala Province between June and August 1990 out of 139 registered cases. A total of 192 people have died of cholera in six provinces of the country over the past few weeks.

### Fifteen People Die of Cholera in Tete Province

MB1701130591 Maputo Domestic Service in Portuguese  
1030 GMT 17 Jan 91

[Text] Tete Province had registered over 730 cases of cholera, including 15 deaths, by 15 January this year, following another outbreak of the disease about two months ago. The provincial health director in Tete said the most affected areas are Cuiro and Calicuna in Changara District, as well as Sansao Muthemba and Mpadue wards in Tete City. Health teams are currently undertaking efforts to enlighten people on preventive measures.

### Advanced TB Cases on Inhaca Isle

MB3101205091 Maputo Domestic Service in Portuguese  
1730 GMT 31 Jan 91

[Excerpt] Maputo Province's Inhaca Isle has reported a number of advanced cases of tuberculosis, which have not been attended to. The isle has just over 10,000 inhabitants, including some 4,000 war-displaced persons from Machangulo area in Matutuine District.

However, despite its shortcomings, Inhaca Isle has not reported any cholera cases. [passage omitted]



## NAMIBIA

### Bubonic Plague Reported in Owambo

91WE0179B Windhoek TIMES OF NAMIBIA  
in English 22 Nov 90 p 1

[Text] A total of 47 cases of bubonic plague have been reported at the Onandjokwe and Oshakati state hospitals in Owambo, northern Namibia this month.

The director of health and social services in the north-western region, Dr. Nestor Shivute, said the incidence of the plague in the north since September was higher than last year. He said 26 cases had been reported at the two hospitals in October compared with 21 cases during the same period last year.

In September this year 10 cases were reported compared with 16 last September. Dr. Shivute said 19 villages were affected by the disease but that no deaths have been reported.

Officials from the Department of Health were spraying affected areas and people in surrounding areas had been given preventative medication. The public was advised to avoid contact with rats that spread the disease.

## SENEGAL

### Incidence of River Blindness Diminishing

91WE0168D Dakar LE SOLEIL in French  
14 Nov 90 p 3

[Article by F. Diaw: "The Scourge Is Declining"]

[Text] Tens of thousands of people have suffered (and still suffer from) onchocercosis, or "river blindness." Tens of thousands or even millions of other people are unaware of it. The latter may live far from the places where this disease is most commonly found, because there are, indeed, centers of infection of this terrible illness.

Following 15 years of effort, the disease is beginning to come under control. Its prevalence appears to be declining in many countries, within which onchocercosis had really become a major public health problem. These encouraging results have been achieved under the World Health Organization's program for dealing with the disease.

It is estimated that 30 million people are affected by this disease throughout the world, including the Americas (Mexico, Guatemala, Venezuela, Colombia, Ecuador, and Brazil), Yemen, and Africa.

In Africa the program against onchocercosis (OCP) has brought results. The disease had assumed disturbing and even dramatic proportions in certain countries. Since 1974 the steadily increasing support of 27 countries and donor organizations has provided evidence of this

through the four-phased program of the OCP, of which the third phase ends in 1991.

On 12 November Minister Assane Diop, members of his staff, Ebrahim M. Samba, program director for West Africa, and other experts held a working meeting at the Ministry of Health and Social Action.

We received Ebrahim Samba in our editorial office on the afternoon of 12 November. He was accompanied by Dr. Abu Bekr Gaye, the director of epidemics, and Dr. Ibnou Deme, the senior doctor of the Tambacounda region (the principal center of infection in Senegal). According to Samba, the morning meeting was concerned with discussing the next meeting of the joint committee which will be held in Conakry [Guinea] at the beginning of December. Also discussed were the objectives, the budget, and activities in 1991 in the context of the third phase of the OCP; preparations for the fourth phase, 1992-1997; and a report on social and economic development in "areas freed" of the disease, etc.

The director of the OCP stated: "The joint determination of the recipient states and countries and organizations providing funds for the program should be continued throughout the rest of the program, because it has already brought results in terms of careful, open management, as well as effective activity."

Doctor Gaye added: "In Senegal we have succeeded in bringing down the incidence rate from 47 percent in 1989 to 23 percent in 1990. The ideal would be to bring the rate down to less than 5.0 percent."

Drs. Gaye and Deme stated: "The program against onchocercosis has been integrated into the regional health development program in Tambacounda to make it more efficient. The distribution of medicine, as well as the program to spread insecticide in the areas where the larvae grow, are fortunately turning out to benefit the people."

However, close surveillance will continue to be exercised against any reinfestation of the affected areas, and these efforts will go on. This dynamic program in the context of a multi faceted effort has saved thousands of people from blindness and has made land threatened by this disease still useful for agriculture.

## SOUTH AFRICA

### Health Official Discusses Birth, Mortality Statistics

MB3001102491 Johannesburg SAPA in English  
0919 GMT 30 Jan 91

[Text] Cape Town Jan 30 SAPA—South African health statistics compare favourably with the rest of Africa and Latin America, yet the internal statistics reflect problems, says the deputy director-general of health, Dr. Hans Steyn.

Speaking at the Fourth Health Informatics for Southern Africa Conference at the University of Cape Town, Dr. Steyn said life expectancy at birth in South Africa was 63 years, compared with 51 years in the rest of the continent and 66 years in Latin America.

The conference was told that life expectancy at birth for whites here is 71, while it is 62 for blacks.

The infant mortality rate here is 50 for every 1,000 live births, compared with 113 in Africa, 105 in Asia and 55 in Latin America.

Yet the infant mortality rate among South African whites is 13 for every 1,000 live births, and 57 for blacks. The birth rate in 1985 for every 1,000 people is 16 for whites and 39 for blacks.

## TANZANIA

### Cholera Deaths in Morogoro Region

EA3001105091 *Dar es Salaam Domestic Service in Swahili* 1700 GMT 29 Jan 91

[Text] Morogoro—About 19 people died of cholera in Ulanga, Kilombero and Kilosa districts of Morogoro region when the disease broke out in the districts earlier this month. The Morogoro acting medical officer of health, Dr. Henry Kisange, has said 18 patients have been admitted to clinics in the districts.

## ZAMBIA

### Details on Cholera Outbreak In Mpulungu

#### Eighteen Deaths in 1 Week

91AF0488 *Lusaka TIMES OF ZAMBIA in English* 28 Nov 90 p 2

[Text] Two more people have died in the cholera epidemic in Mpulungu, north of Mbala, bringing the death toll since last week to 18, Northern Province Member of the Central Committee, Paramount Chief Chitimukulu confirmed yesterday.

Disclosing the latest number of deaths in Kasama yesterday, Paramount Chief Chitimukulu said the highest number of deaths had occurred at Mpulungu totalling eight, while five had died at Nsumbu, three at Chisanga Island and one each in Mbala and Nondo.

Chief Chitimukulu, who is chairman of the provincial cholera surveillance committee said a total of 15 patients were still receiving treatment. Twelve of these were in Mpulungu while the rest were in Mbala.

Out of a total of 148 people affected since the epidemic broke out on 27 October, 119 have been treated and discharged from established treatment centres.

Provincial medical officer, Dr. Albert Sitali, who earlier spent a week in Mpulungu to fight the disease with a

team of other medical doctors, last week rushed to Nsumbu on receiving news that the cholera had spread there.

Meanwhile, hundreds of cattle are dying in Sesheke district because of lack of water and grazing pasture.

The district agriculture officer, Mr. Stanley Lumamba said the district had lost a good number of cattle in the past months because almost all rivers had dried up and grazing pasture either dried up or were destroyed by bush fires.

Mr. Lumamba, who has just returned from a tour of some parts of the district called on the government to construct dams in the drought prone district to save the lives of the animals.

Mr. Lumamba also called on the district council to enact by-laws to punish people who indiscriminately set fire to bushes.

He said people were setting fires to bushes deliberately because the present by-laws were not enforced.

And cattle owners in Sesheke have called on the government to increase the selling price of live animals to the Cold Storage Corporation.

Most of them have complained that the present K16 a kilogramme of live weight was too little and suggested it should be increased to K25.

They said it was costly to maintain cattle now as prices of vaccines and other drugs had gone up.

### Cholera Spreads to Kaputa

91AF0488 *Lusaka TIMES OF ZAMBIA in English* 25 Nov 90 p 7

[Text] The cholera epidemic which has claimed eight lives in Mbala has spread to Kaputa's Nsumbu area, Northern Province Member of the Central Committee Paramount Chief Chitimukulu confirmed. He could not say how many have contracted the disease or have died from it. Provincial medical officer Dr Albert Sitali has rushed to the area. The epidemic is suspected to have been transferred to Nsumbu due to human traffic on the lake front where boats transport people between the two points including the Sopelac owned "Independence" boat. In Mpulungu itself, the number of dead as of yesterday still remained at 8 but the number of cases increased from the earlier 99 to 120. The paramount chief, who is chairman of the Northern Province cholera surveillance committee said 11 people were still receiving treatment in the appointed centres while 1 had been discharged after recovering. In the earlier outbreak in February this year a total of 21 people died in the 2 areas of Nsumbu and Mpulungu respectively and scores more were treated before the killer disease was brought under control.

### **Typhoid Outbreak in Addition**

91AF0488 Lusaka TIMES OF ZAMBIA in English  
23 Nov 90 p 1

[Excerpt] Twelve people have died in Mpulungu and Chisanga Island since the outbreak of cholera on 27 October, Health Minister Dr. Jeremiah Chijikwa told Parliament yesterday.

In a ministerial statement to the House he also revealed that seven people have died of diarrhoea caused by water contamination in Kaoma, while seven Katete Secondary School pupils are being treated for typhoid at Saint Francis Hospital.

The first cholera case was recorded on 27 October at Mpulungu when a woman was treated for the disease after visiting a village in a neighbouring country, but by 21 November people had been treated at centres in Mbala, Chisanga Island, Kasama, and Mpulungu.

In all 153 people were admitted, 103 discharged, 12 died and 38 were still receiving treatment.

At Kasama General Hospital the first admission was recorded on 13 November and on 30 October at Chisanga Island.

Provincial medical officers in Northern and Luapula provinces rushed to affected areas to reinforce the control strategy and K500,000 had been allocated to Northern Province and K100,000 to Luapula to combat the disease. [passage omitted]

### **Cholera Deaths in 1990**

91AF0488 Lusaka TIMES OF ZAMBIA in English  
31 Oct 90 p 2

[text] Health Minister Cde Mavis Muyunda (right) has called for continued environment survey to detect the presence of cholera and enhance control measures to prevent it from spreading.

Cde Muyunda said on Monday to avoid the fatalities experienced during the cholera epidemic in the first half of this year, there was need for health personnel to study the health styles of people and survey the environment continuously if the disease was to be mitigated early.

She was speaking at the opening of a 3-day health personnel workshop on cholera preparedness at Lake Kariba Inns in Siavonga.

Cde Muyunda told the participants to find time to reflect on the last cholera problem as it arose in general, the preparedness of the health personnel and the effectiveness of all control measures.

The cholera epidemic recorded 2,310 cases throughout the country with 144 deaths, a case fatality of 6.2 percent.

She suggested that the basic principles of sanitation, personal hygiene, food safety and availability of safe water should also be given priority to check the scourge.

She said the last cholera problem was caused by ogawa and inaba serotype of cholera bacteria which is fatal because it survives long in the environment and could therefore contaminate water and food stuffs.

She told the participants to work out practical means of controlling any future cholera outbreaks and establish effective routine procedure of reducing the risks of the disease spreading.

"We should always bear in mind that it is the routine things we do and how we do them that we can attain an acceptable level of hygiene and thereby check oral transmission of diseases like cholera," Cde Muyunda said.

She thanked foreign governments, international and local organisations and health personnel for the assistance given during the outbreak of cholera early this year.

She appealed to district councils to uphold their tasks of promoting good public health in their areas as it was incumbent on them to maintain acceptable standards of hygiene.

She also called on councils to enforce such laws as the Public Health Act and the Food and Drugs Act because if such laws were not followed it would contribute to the occurrence of the disease.

### **Lusaka Report Cites Cholera Death Toll at 210**

MB1801135491 Johannesburg International Service  
in English 1100 GMT 18 Jan 91

[Text] A report from Lusaka says 47 more people have died of cholera in Zambia. This brings the death toll to 210 since the disease broke out in northern Zambia in October [1990] last year.

The report says six new cases of the disease have been reported in Lusaka on the copperbelt where cholera has spread to the town of Mufulira near the border with Zaire. More than 120 people are still being treated.

### **Anthrax Caused 4 Human, 50 Animal Deaths**

91AF0487D Lusaka TIMES OF ZAMBIA in English  
27 Nov 90 p 7

[Text] The number of people hospitalised in Zambezi following the outbreak of anthrax in North-Western Province has risen to 96.

Provincial member of the Central Committee Cde. Henry Shamabanse and permanent secretary Cde. Noah Kabamba were expected to travel to Zambezi to assess the situation.

Cde. Kabamba said no new deaths from the disease were reported. The provincial medical office had established

that the four died after eating meat from the infected animals. So far 50 animals have died from the disease.

Cde. Kabamba and Cde. Shamabanse were making arrangements to leave Solwezi yesterday to assess the situation although other reports say the situation was under control.

Earlier, provincial veterinary officer Dr. Jesse Kundayeli said 40 animals had died from the disease believed to have been transmitted from Western Province. This is the first time that anthrax had spread to the province. About 86 people have been admitted to hospitals suffering from the disease.

Cde. Kabamba said the disease was first reported in Mpidi's area near Lukulu in Western Province. He ruled out the possibility of the disease having come from neighbouring Angola.

He said the area between Angola and Zambia had a cordon line set up a long time ago and animals which crossed on either side of the border within the range of 15 kilometres were shot on sight by authorities.

The outbreak of the disease has forced veterinary officers to rush to the area with 12,000 doses of anthrax vaccines in an effort to control the scourge while residents have been advised not to slaughter animals for sale or to eat unless they were certified fit for consumption.

Chief Mpidi's area has been quarantined and all stock movement has been banned.

#### **Anthrax Kills 26 People, 317 Cattle Since December**

*MB3001194291 Lusaka Domestic Service in English  
1800 GMT 30 Jan 91*

[Text] Twenty six people were reported to have died of anthrax in the Western Province since the disease broke

out last December, but the Ministry of Agriculture has, however, assured the public that the disease is now under control. Veterinary and tse tse fly control director Dr. Dioka at the Ministry's headquarters in Lusaka, told the Zambian National Broadcasting Corporation that since the outbreak of the disease the Ministry issued the province with 116,558 doses of anthrax vaccines.

Dr. Dioka said out of 116,558 doses of anthrax vaccines, 91,691 have been utilized to vaccinate cattle in four districts of the province and since then only 317 cattle have died. He said there have been no reported cases of anthrax in the area in the last two weeks.

#### **Black Leg Disease Kills 100 Cattle in Lui**

*91AF0487E Lusaka TIMES OF ZAMBIA in English  
15 Nov 90 p 7*

[Excerpt] More than 100 head of cattle are reported to have died from the black leg disease in Lui ward east of Mongu.

Mongu district governor, Cde. Imasiku Lyamunga who is on a familiarisation tour of the area was told this by the ward chairman, Cde. Mwangala Kayangula.

Cde. Kayangula said several animals at Lwatembo and in adjacent areas had died and no preventive measures had been taken to curb the outbreak despite many reports made to the assistant veterinary officer in that area.

The governor blamed the veterinary officer Mr. Kingsley Nyambe for not alerting his superiors in Mongu so that they could find means of eradicating the disease.

He summoned him to Mongu where a solution could probably be worked out with livestock officers experienced in treating the disease.

## Protective Legislation for Mining Industry Planned

HK2901040591 Beijing CHINA DAILY in English  
29 Jan 91 p 3

[By staff reporter Zhu Baoxia]

[Text] The State is calling on provincial governments to speed up legislation concerning the prevention of pneumoconiosis, a lung disease caused by the chronic inhalation of dust, silica and asbestos that kills over 5,000 people each year.

Kan Kuegui, director of Department of Health Inspections under the Ministry of Public Health said in a press release yesterday in Beijing that while since 1987 the State has repeatedly stressed the need for local legislation in fighting the disease, only two provinces and one municipality—Fujian, Jilin and Shanghai, have worked out specific legal documents to deal with the disease.

Meanwhile, according to Kan, the ministry and the Legislative Bureau of the State Council are revising the Labour Protection Principles decreed by the State Council in 1987.

The improved legislation will further clarify the responsibilities of enterprises with employees at risk, and explain the consequences of not complying with the labor protection measures.

The revised labour protection legislation can be expected to come into effect some time this year, said Kan.

Relevant State departments that oversee public health, energy and metallurgical industries are jointly drafting a report to the central government on the present situation and policies concerning the control of pneumoconiosis in hopes that the State will take further steps.

The Ministry of Public Health and the All-China Federation of Trade Unions and other departments involved are to sponsor televised courses on the prevention of work-related illnesses in March so as to arouse the public's consciousness.

A recent survey of the incidence of pneumoconiosis in 30 provinces, municipalities and autonomous regions indicates that between 1949 and 1989, 441,092 cases of pneumoconiosis were reported in China, and 87,919 people died from the disease.

Besides the present 353,173 people currently suffering from pneumoconiosis, another 500,000 people are suspected to have been exposed to the disease.

Sichuan, Hunan, Liaoning, Shanxi and Jiangxi provinces each have an estimated 20,000 cases.

The disease is most serious in the coal industry. Coal workers make up 46.49 percent of the total number of persons afflicted by pneumoconiosis.

Workers in the non-ferrous metals, metallurgy, building materials and machinery and light industries are also at an especially high risk.

Silicosis and miners' pneumoconiosis account for 48.3 and 39.06 percent, respectively, of work-related illnesses.

Each year, the State spends at least 5.5 billion yuan to help the patients and their families.

Investigations show that no more than 53 percent of the concerned enterprises, either State or collectively-run, have reached the State standards for dust density control. Less than 20 percent of the coal industry adheres to the State standards for dust control.

## Campaign Against Leprosy Stepped Up

HK2801035091 Beijing CHINA DAILY in English  
28 Jan 91 p 1

[By staff reporter Zhu Baoxia]

[Text] China aims to halve the incidence of leprosy by 1995 and wipe out the disease by the end of the century, according to the Ministry of Public Health.

A five-year plan mapped out recently by the ministry sets a goal of cutting cases of leprosy from the current 30,000 to 15,000 by the end of 1995, Vice-Minister of Public Health He Jiesheng said in Beijing on Saturday.

People from all walks of life should contribute to the national strategy by taking good care of, and showing concern for, leprosy patients, He said at a conference to mark China Lepers Day, an annual event which falls on the last Sunday in January.

According to He, about 90 percent of the counties and cities across China had virtually eliminated leprosy by the end of last year.

The country had seen a sharp decline in cases of the disease over the past 40 years from more than 500,000 to 30,000, He said.

Patients were mainly concentrated in areas of Southwest China and mountainous regions, but more than 95 percent were receiving medical treatment.

He warned that hard work was necessary to reach the ministry's goals since most of the patients lived in remote and poverty-stricken districts.

Quite a number of patients dared not go to see doctors because of the stigma attached to the disease, and for fear of being isolated from the public, He said.

He said that in Sichuan Province, which at 6,000 has the highest number of leprosy cases in the country, about 980 patients had to stay in convalescence homes for the rest of their lives.

But clinical experience showed that people could be cured of the disease in its early stages, the vice-minister said, and regain the ability to work.

### **Beijing Records Progress in Epidemic Prevention**

*OW2401173891 Beijing XINHUA in English  
1530 GMT 24 Jan 91*

[Text] Beijing, January 24 (XINHUA)—The incidence rate of epidemic diseases in Beijing has decreased by 76.47 percent compared with the rate in 1982.

The incidence of hepatitis, which had been predicted to peak in 1990, was in fact reduced 21.2 percent compared with 1989, due to the efforts of the municipal epidemic departments.

Beijing recorded the country's lowest incidence rate for tuberculosis at 16 cases per 100,000 people.

Officials from the Beijing Epidemic Prevention Department attributed the notable progress to the concerted efforts of epidemic prevention workers in the capital, and to improvements in the public hygiene system and the establishment of an epidemic monitoring system.

### **Microorganisms Data Bank Established**

*OW2501083891 Beijing XINHUA in English  
0554 GMT 25 Jan 91*

[Text] Beijing, January 25 (XINHUA)—China's first data bank for storing information on various kinds of microorganisms has been established in Beijing.

The data bank, set up by the Institute of Microbiology of the Chinese Academy of Sciences, contains data relating to different fungus varieties and the formation, separation and location of the country's microbiological objects.

Scientists said that the bank already contains stored information on 306 types of microorganisms. The bank will provide Chinese scientists with accurate and up-to-date information that will aid them in their microbiological research, according to a report in the "PEOPLE'S DAILY" today.

### **Health Care Targets Set**

*HK2201033291 Beijing CHINA DAILY in English  
22 Jan 91 p 3*

[By staff reporter Zhu Baoxia]

[Text] If the Ministry of Public Health fulfills its five and 10-year plans for improving medical and health care facilities, Chinese citizens will be able to live at least an extra two years by the century.

Life expectancy is targeted at between 69 and 70 for males, and 73 to 74 for females by the year 2000, Minister of Public Health Chen Minzhang said yesterday in Beijing.

At the opening of the national work conference for directors of health departments, Chen said the rate of epidemic disease should drop by 20 percent by 1995 from last year's figure of 244 per 100,000 and the spread of AIDS would be effectively stopped.

In addition, the country was to wipe out polio and filariasis by 1995, and eliminate leprosy by 2000.

The Ministry of Public Health's programmes for health advancement in the coming five and 10 years set goals in 32 areas of public health including provision of a complete medical network and enhancing the quality of pharmaceuticals.

According to the plans, Chen said, the mortality rate for infants and pregnant women should be decreased by between 15 and 20 percent after five years. The current figures are around 40 per 1,000 and one per 1,000 respectively.

Ninety-five percent of administrative villages would set up clinics to treat common and endemic diseases, while 80 percent of counties were to virtually eliminate endemic diseases that endangered local residents, Chen said.

At the conference, Chen said heightened efforts in the past five years had led to remarkable achievements in the country's health care:

- The number of ward beds in hospitals had surpassed 2.6 million, 395,000 more than in 1985.

- The number of professional health staff had reached 4.9 million, 593,000 more than five years ago, with the number of doctors for every 1,000 people up from 1.36 in 1985 to 1.56 last year.

- Six new higher-learning medical institutes had been set up, bringing the total to 135.

And 594 scientific achievements had won awards above ministry level between 1986 and 1990, while 10 percent had reached international standards.

- Health legislation and inspection on the management of pharmaceuticals, food hygiene and disease control had been strengthened.

Some 33,000 cases of producing and marketing substandard and counterfeit medicines had been uncovered in the past five years, and more than 3.56 million cases running counter to State food hygiene principles had been handled.

- Provision of health care for women and children had been expanded, with the result that the mortality rate among infants had dropped by 15 percent.

- About 70 percent of farmers now had access to clean drinking water, 20.5 percent more than in 1985.

**VD Tests for New Job Seekers***91WE0146B Beijing CHINA DAILY in English  
14 Dec 90 p 3*

[Article by Zhu Baoxia]

[Text] Job applicants in China will soon have to undergo VD tests before being allowed to take up their posts.

And people found to have any form of venereal—sexually transmitted—disease will not be allowed to start work in any factory or start studying in any college until they are cured.

Nor will they be allowed to get married or join the army.

The new rules have been drawn up by the Ministry of Public Health which is now putting the finishing touches to a national strategy on VD control which aims to curb the incidence and spread of sexually transmitted diseases such as syphilis and gonorrhoea and to protect the health of the public in general.

The rules stipulate that staff working in hotels, public bath houses, swimming pools, restaurants, stores and nurseries—as well as some pedlars—must also undergo VD tests when receiving their annual health examinations. Those affected must be treated immediately.

The new provisions are likely to be promulgated some time next year after several amendments.

According to Zheng Zhongbo, the official in charge of the Anti-Epidemic Department under the Ministry of Public Health, the incidence of VD has risen throughout the country in recent years, especially in the southern and coastal areas.

Statistics from 16 major inspection stations reveal that about 200 out of every 100,000 people in the south of the country now contract some form of VD each year.

And these sexually transmitted diseases are spreading rapidly towards the rural areas.

By the end of September this year, 70,000 new VD cases had been reported throughout the country, bringing the total number of reported cases to 375,235 over the last three years.

The ministry, which has drawn up its national strategy on VD control in line with the State Epidemic Control Law, is calling for combined efforts from State departments to oversee the work in the fields of public security, civil affairs, press, publishing and education and tourism as well as establishments for women, workers and young people.

And each sector has been given specific tasks in carrying out the national programme.

The ministry is also urging all local governments to set up a comprehensive network to inspect and report on

VD cases and to guarantee the smooth implementation of the campaign nationwide.

Medical institutes at all levels, including private clinics, will be required to report any rapid spread in VD cases in their areas to the anti-epidemic authorities.

Units and individuals who attempt to treat VD patients without official approval from health authorities will be fined between 500 and 3,000 yuan or be forced to close.

Medical staff will be required to respect the principle of confidentiality and to make regular visits to patients.

Units and individuals who turn in outstanding performances in the national programme will be commended and rewarded.

**Southern Area Launches New Campaign Against Snail Fever***OW2301042791 Beijing XINHUA in English  
0324 GMT 23 Jan 91*

[Text] Beijing, January 23 (XINHUA)—Provinces in south China have launched a massive preventive campaign against snail fever, a disease that ran rampant in the 1950s and 1960s.

Today's "PEOPLE'S DAILY" reported that local governments have allocated more funds and more forces in the preventive work with the local planning commission taking the lead and coordinating with agricultural, water control and medical departments.

The Jiangxi provincial government has decided to raise more than 12 million yuan to control snail fever, the paper reported.

It reports that the Hunan provincial party committee stipulated that all the party chiefs of the contaminated areas must be in charge of the campaign, which will focus on those areas where more than 30 percent of the population carries the snail fever virus.

Other provinces such as Jiangsu, Zhejiang, Guangdong, Guangxi, Sichuan, Yunnan and Fujian have all taken steps to wipe out snail fever, according to the paper.

**Guangdong Works to Prevent Recurrence of Snail Fever***OW0901121991 Beijing XINHUA in English  
1038 GMT 9 Jan 91*

[Text] Beijing, January 9 (XINHUA)—South China's Guangdong Province has worked out a meticulous plan to prevent snail fever from reappearing in the province in the next five years, today's overseas edition of the "PEOPLE'S DAILY" reported.

According to the plan, a thorough investigation of the areas in the province where snail fever used to run rampant will be conducted.

The province also plans to examine 25,000 of the province's primary and middle school students and nonnatives for snail fever, and give check-ups to the 8,300 patients who contracted snail fever in the past. More than 35,000 calves under 2 years old will also be tested for the fever.

Since the founding of the People's Republic of China in 1949, Chinese scientists have spent dozens of years attempting to wipe out snail fever. However, in recent years, the disease has reoccurred in some areas in central China.



## INDONESIA

**Daily Calls for Better Service After Dengue Outbreak***BK0102041891 Jakarta Domestic Service in Indonesian 0600 GMT 1 Feb 91*

[From the press review]

[Text] PELITA discusses the outbreak of the dengue fever in southeast Maluku which has claimed about 100 lives. The casualties were high due to several constraints, such as lack of transportation and communications. In this connection, PELITA stresses the need to improve service in all fields, including bureaucratic procedure in rural areas. The case should also serve as a lesson for other areas in our vast territory.

## SOUTH KOREA

**Firm Patents Antibiotic, Signs Contract With UK Firm***SK1001101991 Seoul YONHAP in English 0914 GMT 10 Jan 91*

[Text] Seoul, Jan 10 (OANA-YONHAP)—A private research group has created a new antibiotic, earning South Korea its first export contract for a patented chemical product.

A team led by Kim Yong-chu of the Institute of Central Research, owned by the Lucky business group, has introduced a cephalosporin-class antibiotic that it claims is more effective than any other previously marketed product.

Lucky signed a contract with Britain's pharmaceutical giant Glaxo Group on Wednesday to sell the technology and know-how to produce its chemical. Annual profit is estimated at 50 billion to 60 billion won (70 million to 84 million U.S. dollars), according to group officials.

The antibiotic, developed in a four-year 5 billion-won (7 million dollar) research project, will go on the market in 1995, they said.

Antibiotics are generally divided into six classes—including cephalosporin, penicillin and b-lactam, which claim 70 percent of the approximately 120 billion-dollar market. The new antibiotic belongs to the cephalosporin class.

One of the outstanding characteristics claimed for lucky's fourth-generation antibiotic is that it is effective against both gram-negative and gram-positive bacteria such as pneumonia, bronchitis, dermal infection and acute gastroenteritis.

It also displayed high stability in joint product tests with Glaxo, officials said.

The contract with Glaxo marks Korea's first export of a patented chemical item, the officials said.

## LAOS

**Hemorrhagic Fever Epidemic in Sayaboury***BK3001142691 Vientiane Domestic Service in Lao 0500 GMT 28 Jan 91*

[Text] An outbreak of hemorrhagic fever recently occurred in Houai Phok, Houai Leuang, and Houai Sa-ngiam villages in Sayaboury District. More than 100 villagers suffered from the epidemic. Two of them have died so far. In the wake of the outbreak of this epidemic, the health station, and the provincial epidemic control service promptly sent medical cadres to inoculate the local population. The epidemic is now under control.

## MALAYSIA

**Ministry To Reject Contaminated Food From Gulf***BK2401070591 Kuala Lumpur BERNAMA in English 0607 GMT 24 Jan 91*

[Text] Kuala Lumpur, Jan 24 (OANA-BERNAMA)—The Malaysian Health Ministry is on the alert to prevent contaminated food being imported from the Arab countries should chemical weapons be used in the Gulf war, the minister, Lee Kim Sai said Thursday.

He added, however, that Malaysia did not import much food from those countries compared to the non-Arab countries. Malaysia imported only dried fruits such as dates from the Gulf countries.

He said the prime minister, Dr. Mahathir Mohamed, had directed all ministries to be on alert and to prepare necessary measures following the Gulf war.

## THAILAND

**Hepatitis Outbreak Among Intravenous Drug Users***BK1612012490 Bangkok THE NATION in English 16 Dec 90 p A1, A3*

[Text] Medical researchers have reported an outbreak of Hepatitis C among intravenous drug users in Bangkok. Reports indicate that as many as a third of all such users are infected with the dangerous, blood-borne virus.

The presence of Hepatitis C has never before been reported in Thailand, and scientists in the West have only become aware of its existence within the last decade. If untreated, the disease can lead to chronic hepatitis and cancer of the liver.

The report was the result of research carried out by scientists at Ramathibodi Hospital in collaboration with Thanyarak Hospital, directed by Dr. Thongchai Uneklop

and run by the Department of Medical Service in Thailand's Ministry of Public Health. The work received financial support from the Japanese foundation for AIDS Prevention.

Dr. Benchaphetchaichai of Ramathibodi Hospital, the project's principal investigator, noted that "this confirms the suspicions of many health professionals that blood donated by intravenous drug users is unsafe to use and should be avoided at all costs. Many labs in Thailand do not have the equipment to test for Hepatitis C infection."

The blood samples tested were those taken from intravenous drug users in Bangkok who have been found to be free of infection from the HIV virus which leads to AIDS. So whether there is any link between the spread of AIDS and that of Hepatitis C is as yet unknown.

It had already been discovered that 30-40 percent of all intravenous drug users in Bangkok have tested positive for the presence of HIV infection. Another new study conducted by the University of Osaka in Japan—which used an advanced technique known as polymerase chain reaction (PCR)—found that an additional 5-8 percent have also been infected, but so recently that it was not picked up by more traditional diagnostic techniques.

The finding that roughly 30 percent of Bangkok's intravenous drug users have Hepatitis C matches the results of surveys conducted in some European cities. It also indicates that addicts in Bangkok are suffering severely from contagious diseases.

Like AIDS and Hepatitis B, Hepatitis C is spread through the blood supply, making intravenous drug users, who often share used syringes, especially prone to contracting the disease. Unlike Hepatitis B, no vaccine has as yet been developed for Hepatitis C.

In fact, the disease is so new that, until recently, there was no direct way of checking whether a blood sample carried the virus. Only indirect methods could be used. Two years ago, however, a technique was developed to specifically screen blood supplies for Hepatitis C infection.

"A lot of things are unknown about the disease," asserts Dr. Benchaphetchaichai, "No one has actually seen the virus itself yet, only indications of its presence. And we don't know if it has been in Thailand for a long time or has been newly introduced." Research is currently taking place to document the virus' presence amongst the general Thai population.

**BRAZIL****Cuban Experts To Participate in Joint Vaccine Project***PY1101115091 Brasilia Domestic Service in Portuguese  
2100 GMT 10 Jan 91*

[Text] Brazilian and Cuban experts will work together to develop a vaccine against dengue. Brazil and Cuba have held initial contacts to discuss the possibility of developing a vaccine to be used specifically against dengue.

Health Ministry Executive Secretary Luis Romero has said that the development of the vaccine will depend on more visits and possible agreements between the two countries.

Meanwhile, the Health Ministry has expressed its satisfaction with a Brazilian delegation's four-day visit to Cuba. During this visit the Brazilian Government managed to arrange a reduction of \$30 million in the import price for meningitis type-B vaccine, as explained by Romero.

[Begin Romero recording] We think this visit was absolutely positive. We managed to achieve a substantial reduction in vaccine prices. We have achieved a reduction of \$30 million, based on whether Brazil will need to import seven million doses of the vaccine. This will probably occur. We actually managed to reduce the price per dose to \$1.50, which on a large scale represents more than half the debt of the Brazilian Lloyd company. [end recording]

According to Luis Romero, Brazilian experts in this sector will go to Cuba next week to hold talks on vaccines against dengue. Once the terms for a technical cooperation agreement are established, the dengue vaccine should be ready within two or three years.

**Health Ministry Releases Funds to Fight Dengue in Rio***PY0801204691 Brasilia Domestic Service in Portuguese  
2100 GMT 7 Jan 91*

[Text] The Health Ministry has transferred 787 million cruzeiros to the state of Rio de Janeiro for the struggle against dengue. Of this amount 400 million are earmarked for the municipality of Rio de Janeiro to contract sanitary inspectors, and the remainder will be distributed among 11 other municipalities.

Rio de Janeiro, Sao Paulo, and Ceara are the states most affected by dengue. In Rio de Janeiro alone, almost 15,000 cases of dengue type one were detected. This is not the deadly type of dengue.

More than 1,000 cases of hemorrhagic dengue have been investigated, however, and (???) [number indistinct] cases were confirmed. Four people have already died in Rio of dengue.

In Fortaleza, 15,000 people have already been bitten by the mosquito carrier of the disease. In Sao Paulo, more than 2,000 cases have been reported.

There are four types of virus that provoke the disease but the risk of contracting hemorrhagic dengue, the most dangerous one, is higher among people who have been infected by the disease before.

A Health Ministry delegation of experts will leave for Sao Paulo and Ceara to see what personnel and material are needed to fight the dengue.

Another delegation of experts will leave on Thursday for Washington to discuss with U.S. scientists the possibility of manufacturing a vaccine against dengue, a vaccine that has not yet been developed anywhere in the world.

**Dengue Report in Rio de Janeiro in January***PY2601203091 Brasilia Radio Nacional da Amazonia  
Network in Portuguese 0900 GMT 26 Jan 91*

[Summary] A total of 7,000 cases of dengue were registered in Rio de Janeiro during the first half of January. This represents 39 percent of the 18,300 cases registered in the state in 1990. This information is contained in a report that the Superintendency for Public Health Campaigns will submit to Health Minister Alcení Guerra next week.

**Further on Dengue Cases in Rio de Janeiro***PY3001133891 Rio de Janeiro Rede Globo Television  
in Portuguese 2200 GMT 29 Jan 91*

[Text] A total of 15,000 cases of dengue were registered in Rio de Janeiro during the last three weeks of January. This represents 40 percent of all the cases registered last year.

This information was provided by the Health Ministry, which has allocated 15 billion cruzeiros to fight dengue in Rio de Janeiro.

The ministry will also contract 10,000 health workers and bring 200 experts from other states to fight the increase.

**COLOMBIA****Malaria Cases Seen Rising Along Pacific Coast***PA2401195091 Bogota Inravisión Television Cadena 2  
in Spanish 0000 GMT 24 Jan 91*

[Report by Ana Fernanda Valderrama]

[Text] The health emergency along the Pacific Coast was caused by last September's suspension of a campaign involving vaccination drives, medical deliveries, and disease control actions, promoted by SEM [expansion

unknown] and the research institute headed by Colombian scientist Manuel Elquim Patarroyo. The campaign was suspended due to a lack of funds. [Begin recording]

**Unidentified person:** Because it is engaged in politicking, the central government has forsaken us. That is one of the reasons why Dr. Elquim has gone to seek other possibilities. [End recording]

Along the Pacific Coast, 46,000 malaria cases have been detected, and Tucumaco is the worst hit area, chiefly in the rural sectors where the mosquito carrier infected 10,000 persons living in extremely poor sanitary conditions. People arrive at the health centers everyday, but there is no medicine. The regional hospital, which normally receives from 30 to 40 cases every month, has had to handle approximately 80 malaria cases so far in 1991. [Begin recording]

**Unidentified doctor:** The figures have doubled so far this year. We have had patients who had malaria in the brain. [End recording]

A Health Ministry commission, headed by the SEM national director, came to the zone to implement an emergency plan to eradicate the spread of this illness.

## HONDURAS

### Malaria Cases Number 8,000 in El Progreso

91WE0148B San Pedro Sula LA PRENSA in Spanish  
26 Nov 90 p 14

[Text] San Pedro Sula—The discovery of over 8,000 cases of malaria in the El Progreso area of Yoro prompted the health authorities of this district to declare a state of alert.

Last weekend the director of the El Progreso Health Center, Maria Elena Reyes, informed reporters that this medical unit had found over 8,000 persons are suffering from malaria as a result of the proliferation of insects transmitting the disease.

On Friday the authorities from that center and from the Vectors Section held an emergency meeting to analyze the situation. They determined that there is an urgent need to provide fumigation and general medication in the entire area, because malaria has been considered by the Public Health Ministry officials to rank third on the scale of diseases with the greatest morbidity in the country.

Maria Elena Reyes remarked that the number of persons with malaria is rising, and that stagnant water is the breeding place for the carrier mosquito. Hence, there is a pressing need for fumigation, water chlorination, and the sending of medical brigades to distribute pills to counteract the disease among the population.

She claimed that, among the 8,000 persons with malaria, there are 800 pregnant women who have contracted the disease, according to reports.

## JAMAICA

### Minister Reports Typhoid Outbreak 'Under Control'

FL2301224091 Bridgetown CANA in English  
2145 GMT 23 Jan 91

[Text] Kingston, Jamaica, Jan 23, CANA—A typhoid outbreak which killed six persons last year in the southern Jamaican Parish of Westmoreland, has been brought under control, Health Minister Easton Douglas said. The minister, who was giving a report in Parliament, said no new cases of the disease had been confirmed over the past three weeks.

Nearly 200 persons were hospitalised following two outbreaks of the deadly disease. Health officials blame poor sanitary conditions for the outbreak. According to the minister, three children and one adult had been readmitted to hospital for further treatment. Thirty persons have been identified as possible carriers of the disease of which twenty were hospitalised for further investigation.

Douglas described the identification of typhoid carriers as reaching a "clinical stalemate." He explained that although some persons were suspected of being carriers, health officials have not been able to prove it satisfactorily.

The minister announced that J 10.8 million dollars had been allocated to support immediate short-term measures to assist in the fight against typhoid. These included remedial work on the water treatment and distribution system and the building of pit latrines.

## PANAMA

### Health Minister Reports on Meningitis 'Epidemic'

PA0901165691 Panama City El SIGLO in Spanish  
8 Jan 91 p 9

[Article by Andres Davila]

[Excerpts] Health Minister Jose Trinidad Castillero has told El SIGLO that so far 16 deaths caused by meningitis have been registered in Panama due to an epidemic that has been going on for the past five years.

Minister Castillero stated that the outbreak of the meningitis epidemic in Panama is not the type that grows and then fades away; it remains constant.

This epidemic is not decreasing since 116 cases have already been recorded, including the 16 deaths. [passage omitted]

This epidemic is more common in the capital city, specifically in the metropolitan area and in San Miguelito. Some cases have also been recorded in Colon

and in the interior of the republic. Some deaths have been recorded; they are scattered throughout the country, but they mostly occur in the capital city. [passage omitted]

Concluding, the head of the Health Ministry said that the mortality rate is approximately 15 percent, and we expect it to decrease soon. We also expect to detect the disease at an early stage.

## INDIA

### Calcutta 'Mystery Disease' Is Dengue Fever

#### Corrected Total

91WD0328 Calcutta *THE TELEGRAPH* in English  
2 Dec 90 p 11

[Excerpt] The junior doctor at the Calcutta Medical College Hospital remembers vividly six-year-old Meena Adhikari. "She was very ill, burning with fever. Within hours of her admission, her body temperature dropped, her palms turned clammy and she became delirious," he said. Meena Adhikari was suffering from DSS (Dengue Shock Syndrome) which the frantic doctors hunting through their books failed to diagnose. It was probably too late any way. She died the next day. "We wrote her off as an encephalitis death (the death register is signed by Probal Bir, a young doctor) but I realise now that she was a dengue case... it is too late now."

If the doctors privately admit that the frail little girl died of dengue, the government is yet to acknowledge that the outbreak of this virulent form of dengue is serious. "People are creating a fear psychosis ... this is not a major outbreak. There is nothing to worry about," Mr. Subodh De, mayor-in-council (health) of the Calcutta Municipal Corporation said, dismissing the dire prophecies of gloom and doom. Till November 29, the state government admitted to the deaths of only 12 children even though the death register of the Calcutta Medical College paediatric ward alone records the deaths of 18 patients (including Meena Adhikari) in the last two months.

The government and the Corporation have done too little, and that too, far too late, is the verdict of the medical experts, many of whom acknowledge that more children have died of dengue than the government is admitting. "The death toll stands at 17," says Dr. Manish Chakraborty of the Tropical School of Medicine on Wednesday. "The early deaths were attributed to encephalitis. People did not realise what was going on," a leading entomologist at the Tropical School of Medicine added.

The official death toll on Friday was 12, but the register of the paediatric department of the medical college, a slim hardbound volume, says that the following 18 persons have died of viral haemorrhage since September. [List omitted]

#### Spreading Denied

91WD0328 Calcutta *THE STATESMAN* in English  
29 Nov 90 p 9

[Text] Mr. Prasanta Chatterjee, Mayor of Calcutta, met Mr. Prasanta Sur, West Bengal's Health Minister, at Writers' Buildings on Wednesday and discussed the situation created by the outbreak of dengue fever in the city.

The Mayor later told reporters that both the State Government and the Calcutta Municipal Corporation were determined to deal with the situation with all seriousness. A programme has been taken up to destroy mosquitoes at the larvae stage. For this purpose, a number of portable machines would have to be bought.

Mr. Chatterjee said he had also requested the irrigation Department to arrange for the flushing of the Beliaghata canal to free it from mosquitoes. The Mayor, however, pointed out that the experts of the Virology Department had informed that the carrier of dengue fever was a special kind of mosquito. These bred even in fresh water.

The Mayor denied the allegation that dengue fever was spreading. He said the attacks were concentrated in certain areas of the city.

Mr. Prasanta Sur said five new dengue fever cases were admitted to hospitals in the city during the day. This took the total number of people affected to 53. Among the new patients, one was from Osthi in South 24-Parganas district. There was no report of any death during the day.

Mr. Sur said that to deal with the dengue virus a coordination committee comprising representatives of the State Government and the CMC had been formed. Experts were included in the committee to boost drives against the spread of the fever.

The Mayor criticized the attitude of the Congress(I) Councillors who opposed the CMC's decision to give a reception to outstanding players on the grounds that children in the city were dying of dengue fever. He pointed out that the infant mortality rate was the highest in India. In view of this, the Congress(I) leader, Mr. Priya Ranjan Das Munshi, should have then quit the AIFF and all kinds of games in the country should be stopped.

The Mayor said the argument of the Congress(I) Councillors was not logical. He, however maintained that dengue fever was causing concern. "We are really sorry about the deaths of several children," Mr. Chatterjee said. But he observed that the spread of the disease had not yet taken a serious turn.

### High Incidence of Jaundice in Maharashtra

91WD0329 Bombay *THE TIMES OF INDIA*  
in English 5 Dec 90 p 3

[Excerpt] Nagpur, Dec 4 (UNI)—Members from both sides in the Maharashtra legislative council today grilled the health minister, Mr. Pushpatai Hiray, over the high incidence of jaundice in Maharashtra which claimed 425 lives between January and October this year.

The matter was raised during question hour by Mr. Panjabrao Deshmukh (Cong) and 13 others. The members expressed indignation over the fact that the minister

had not even bothered to read the report of Bombay's Haffkine Institute which analysed the causes of the epidemic.

Replying to the main question, Mr. Hiray said jaundice claimed 425 lives in ten months, with Beed district reporting the highest—127 deaths. Preliminary inquiries revealed that polluted water and filthy surroundings led to the epidemic. She also gave details of the measures taken to check the epidemic. [Passage omitted]

## IRAQ

### **Cholera, Typhus Epidemics Threaten Baghdad**

*AU2801103291 Cologne Deutschlandfunk Network in German 1000 GMT 28 Jan 91*

[Text] Epidemics are threatening to break out in the Iraqi capital, Baghdad. International relief organizations in Jordan are especially concerned about the spread of typhus and cholera. They say that the air raids of the multinational forces have led to the partial breakdown of the water and electricity supply. Because of the embargo mandated by the United Nations Organization following the occupation of Kuwait, Iraq is particularly short of some foodstuffs and medical goods, these organizations say.

### **Expert Says Iraq Ready To Unleash Germ Warfare**

*AU2901163291 Paris AFP in English 1616 GMT 29 Jan 91*

[Text] Brussels, Jan 29 (AFP) — Iraq is probably ready to unleash germ warfare when a ground war begins in the Gulf, Belgian toxicologist Aubin Heyndrickx warned here Tuesday [29 January].

Mr. Heyndrickx, head of toxicology at Ghent University, said Iraq was known to have used typhoid and cholera germs against its minority Kurds in 1988.

"We know that from members of Medecins du Monde who worked on the Turkish border," Mr. Heyndrickx said, referring to a humanitarian body.

"The Turks kept it quiet, because they were friends with (Iraqi President) Saddam Husayn at the time. The victims were cared for secretly in Turkey," he said, adding that Iraq had blocked all attempts to investigate.

Mr. Heyndrickx went to Iran in the mid-1980s to investigate the use of chemical weapons by Iraq in its war against Iran.

He was there again just before the war broke out "at the request of a government in the region" to advise on decontamination and treatment, he said.

The Iraqis might now be ready to use anthrax and botulism germs, and would certainly use chemical weapons, he added.

There is disagreement here over the danger posed by chemical warfare. Mr. Heyndrickx said: "We saw it in Iran. He (Mr. Husayn) attacked 2,000 villages. He won the war against Iran thanks to chemical weapons."

But Andre Dumoulin, of the private research organization GRIP, [expansion unknown] said an Iraqi chemicals attack would have no military effect.

He said Iraq lacked the technology to put a chemicals charge on a missile while its air force lacked the strength to deliver chemical bombs.

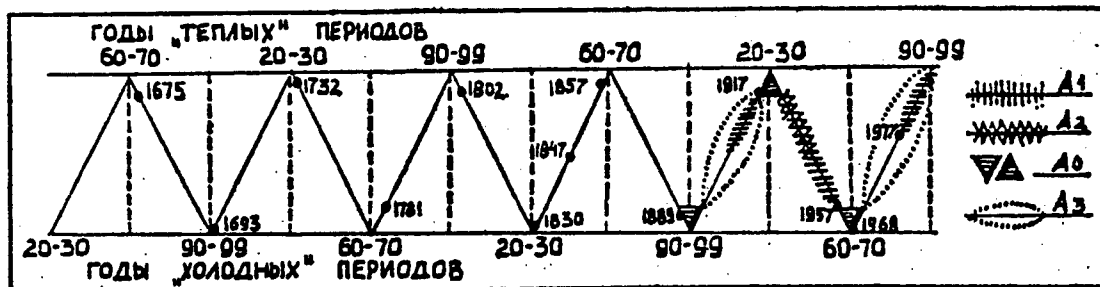
Mr. Dumoulin said an area subject to a chemicals attack would be easily sealed off even if highly dangerous toxic liquids were used, and that such an attack could be significant only if delivered through saturation bombing.

"I cannot see the Iraqi air force delivering such an attack. It would have to be done at night to avoid early detection. Iraqi pilots are not used to night flying and are not equipped for it," he said.

But Mr. Heyndrickx said he and colleagues had personally counted thousands of dead victims of chemical warfare in Iran and in Iraqi Kurdistan.

Towards the end of its war with Iran, Iraq had replaced its mix of "yellow rain" mycotoxin, mustard gas and a neurotoxin by a cyanide-based gas because it killed quicker, he said.

The Iraqis had since improved their chemical weapons. "They cause incontinence, paralysis, blindness. It is incurable. Mothers don't recognise their children. The victims become living vegetables," he said.



Key:—1. "Warm" Years—2. "Cold" Years

### Chemical Troops Chief Dismisses 'Iraqi Chernobyl' Threat

PM2301164791 Moscow *RABOCHAYA TRIBUNA*  
in Russian 24 Jan 91 p 3

[Report by Nikolay Panyukov: "Truth About Iraqi 'Chernobyl'"]

[Text] Reports that the multinational forces in the Gulf are striking against Iraqi nuclear research centers and chemical and bacteriological weapons dumps have caused alarm among readers.

"The only thing people are talking about at the moment is the 'Iraqi Chernobyl,'" V. Marfin of Simferopol stated, sharing his fears. "What currently is the radiation, chemical, and bacteriological situation on our country's southern border?"

Here is what Colonel General S. Petrov, chief of the Chemical Troops, said on this subject:

"Of course, there is and can be no question of an 'Iraqi Chernobyl.'

"As for strikes against chemical weapons plants and chemical weapons dumps and storage bases, these could cause major losses above all among the local Iraqi population. For the Soviet Union there is virtually no such danger.

"The situation concerning bacteriological weapons is more complex. Strikes against installations producing such weapons could lead to outbreaks of various epidemics—first and foremost, of course, on Iraqi territory. There could be outbreaks of anthrax, plague, cholera, and various kinds of fever, as well as vectors of various diseases that are entirely unknown to us... Since epidemics, as is well known, do not recognize borders, such acts could create a threat of a complex bacteriological situation for neighboring states.

"That is the reality. But, obviously, we should also state the following: In launching strikes against such installations the anti-Iraqi side would essentially be embarking only indirectly on the use of weapons banned under the 1925 Geneva Protocol and the 1972 Convention.

"Nobody should forget that 110 states, including states in the anti-Iraqi coalition, have signed these documents."

### Vietnam Donates Coconut Shells to Ukraine

LD0701111691 Kiev *International Service in English*  
0000 GMT 7 Jan 91

[Text] Vietnam donated to the Ukraine 17 tonnes of coconut shell. Coconut shell is a major component of special medicines which absorb radionuclides from the human body. Ukraine also receives this important raw material from Indonesia, Burma, Laos, Sri Lanka, and Ghana.

### Scientists Predict Next Influenza Pandemic in 1991

90WE0264 Moscow *NTR TRIBUNA* in Russian  
No 9-10, 27 May 90 p 3

[Article by Doctor of Medical Sciences G. Zhilova and Candidate of Medical Sciences V. Orlov: "Influenza-91. A Global Epidemic?", All-Union Scientific Research Institute of Influenza, USSR Ministry of Health, Leningrad]

[Text] The next expected "Spanish" epidemic, one of the most severe forms of influenza, could very well break out in the summer or fall of next year. That is the prediction made by associates of the USSR Ministry of Health All-Union Scientific Research Institute of Influenza.

For reasons that are not yet clear the etiological agents of major influenza epidemics appear among the population in the southeastern region of the globe. We tried to obtain answers to the three main questions related to long-term prognoses: Where the next pandemic will occur, when, and which subtype of influenza virus will be the cause.

The basis of our research were the data on the cyclic nature of human influenza A pandemic activity which has exhibited a uniform global epidemic process with its epicenter in the southeast region. The difficulty here is that each pandemic cycle of 10 to 18 years includes three to five epidemic cycles. In addition, the framework of



one pandemic cycle may include major epidemics simultaneously caused by two etiological agents (e.g., A3 and A1 viruses), i.e., as if there were two different epidemics. Finally, a virus that starts a new pandemic might not itself cause major epidemics that could be caused by other viruses (e.g., the AO virus which started the pandemic cycle in 1929 did not cause significant epidemics).

According to epidemiological data there was a total of 13 pandemics between 1675 and 1990. Ten of those pandemics were shown to have originated in the southeastern region. The epicenter for the others was not established. Unfortunately, the literature has only a few isolated reports on the precise (monthly) occurrence of the pandemics, but our analysis of data for the last 20 years showed that the etiological agents of the major epidemics that appeared in the southeastern region between April and June were the A1 virus and the A3 virus for the epidemics between July and September.

We compared the influenza pandemic data to the long-term cyclic climate changes of the earth's northern hemisphere. Traced over a period of almost 1,000 years, they are characterized by a shift between "cold" and "warm" periods three times per century. Moreover, those shifts occurred practically within the same decades, i.e., between 20-30, 60-70, and 90-99 years.

We plotted the pandemic activity of influenza A viruses (see Fig.) on a temperature curve for the climate changes from 1675 to 1990. As can be seen from the Figure, the peaks of the "cold" and "warm" periods coincided with pandemics, and only two out of the 13 pandemics occurred during the intermediate periods. Moreover, subtype A2 pandemics occurred in two "cold" periods of the twentieth century, whereas the "Spanish" epidemic caused by the A5v subtype occurred during the "warm" period of the 20-30s. The A1 virus broke out three times as an epidemic. In addition, it circulated simultaneously with the A3 virus on two occasions, joining it nine years after its appearance. Both of these events occurred on an ascending segment of the temperature curve. The AO virus subtype was observed only once. It did not cause major epidemics, but the cycle that it initiated was plotted on the descending segment of the curve at an interval of 11 to 12 years after the "Spanish" epidemic.

According to available data, the pandemic of 1675 (plotted in the maximum "warm" period in our diagram) exhibited an amazing affinity to the "Spanish" pandemic which is classified as a neurotoxic type and primarily affected the younger population, in contrast to the 1889 pandemic which was of a catarrhal-pulmonary nature and affected the elderly and children, and was plotted in the "cold" minimum zone of our diagram. Thus, one gets the impression that the "Spanish" type pandemic regularly occurs at the peak "warm" periods, whereas the "Asian" type pandemics caused by viruses A2 and A3 take place at the minimum "cold" periods.

The sequence in which the human influenza A subtypes appear in the epidemic arena cannot be considered accidental. This process is marked by a profound mutual relationship between the etiological populations and the host population that is regulated by the biorhythms of viral epidemic activity and the human immune status. These biorhythms have a complex periodicity that includes an extensive cycle lasting about 100 years (e.g. from 1889 to 1990) and comprises three 33-year cycles that are concluded by the more severe "Spanish" and "Asian" type influenza pandemics (within a 100-year cycle there can be either two "Spanish" type and one "Asian" type pandemic, or vice versa), and more moderate 10- to 12-year cycles that are initiated with a specific sequence of AO, A1, and A3 viruses. Thus, a single century cycle includes three 33-year and nine 10-year cycles.

We believe that presence of biorhythms connecting humans to the influenza virus is indirectly evidenced by the surprising coincidence of dates at which major epidemics occurred in almost the same years in different centuries: 1557, 1657, 1857, 1957; 1647, 1847, 1947; 1675, 1775, 1977; 1427, 1627; 1688, 1788; 1602, 1802; 1737, 1836. After the studies by A. Chizhevskiy who, on the basis of considerable data, demonstrated the relationship between plague, cholera, smallpox, influenza, and other epidemics to periodic changes in solar activity, a consideration of that relationship's dynamics has become an inseparable part of most predictions of that type.

In our case also two out of the 13 pandemics occurred during minimum solar activity whereas 11 occurred during maximum activity. We are now on the peak of the "warm" period with a presumed solar activity peak in 1991 of 4+1 years. This is very much resembles the time preceding the terrible "Spanish" influenza of 1917 which claimed 20 million lives. Not only are climatic and solar data being repeated, but the viral situation as well. Viruses A1 and A3 are again circulating on the ascending segment of the curve (see Fig.). Consequently, one can predict with a significant degree of probability that the next influenza A pandemic will be caused by a virus related to the "Spanish" influenza etiological agent.

By analogy to the conditions of the "Spanish" influenza outbreak, we should expect that the etiological agent of the next pandemic will most probably appear in June 1991 in the countries of the southeastern region, with the onset of the epidemic process taking place in October 1991. However, there is a certain degree of probability that pandemic events will also occur in 1990 and 1992. A more precise prediction will be possible only after more information is obtained on the exact time of peak solar activity.

Thus, in accordance with our prognosis, we should expect the next influenza A pandemic to take place in 1991. Its etiological agent, whose biological properties are related to the etiological agent of the "Spanish" influenza, should appear in the southeastern region

(most probably China) during one of the summer months, and the onset of the epidemic process should be expected three months later. If we have accurately identified the characteristics underlying the biorhythms of influenza virus A pandemic activity, and this is confirmed in the current "warm period" maximum during a change in solar activity, then we shall have the prospect of predicting influenza pandemics for both the immediate and distant future.

In conclusion, we would like to emphasize that the views expressed here represent the personal viewpoints of the authors and do not represent the official views of the All-Union Scientific Research Institute of Influenza on the problem under examination.

### **Anthrax Outbreak, Increased Infectious Disease in Kirghizia**

91WE0029B Frunze SOVETSKAYA KIRGIZIYA  
in Russian 5 Sep 90 p 1

[Article by correspondent V. Orenburgina: "The Virus of Indifference"]

[Text] The republic extraordinary epidemic control commission held a special session. A sudden outbreak of anthrax at the Sovkhoz imeni Telman, Panfilovskiy Rayon, was the grounds for the emergency meeting. Twelve persons have been infected by this insidious disease by way of meat from sick animals, and hospitalized.

The causes that compelled the leaders of a number of ministries and departments to convene for serious discussion are significantly deeper. On the whole, the epidemic situation in the republic has worsened dramatically. In 7 months of this year, in comparison with the same period of last year, growth of morbidity was recorded at 32.2 percent for typhoid fever, a factor of 1.6 for paratyphoid, 25.5 percent for salmonellosis, 204 more cases for dysentery, and 309 more cases for other intestinal infections. Bitter statistics! They were cited in a report of wartime brevity befitting the moment, given by Kirghiz SSR Chief State Public Health Physician B. Shapiro, deputy chairman of the republic's extraordinary plague commission. Each of these figures represents dozens of people with ruined health, and even lost lives.

One would have also thought that all of the rest of the statements voiced at the meeting would have been permeated with concern for this situation as well. But alas, this did not happen. Nor was anything said in regard to specific proposals to contain the existing epidemic foci and to prevent the appearance of new ones. For example, the epidemiological situation in Dzhany-Dzholskiy Rayon, where an outbreak of typhoid fever was registered in August, continues to be extremely dangerous. Poor quality drinking water became a source of illness for over 60 persons. Even in the rayon center, the town of Karavan, where the largest number of victims was noted, there is a lack of water mains. The needs of the population of two districts were satisfied here by, of all

things, a street sprinkler. It delivered water to people straight from irrigation wells, which receive an unchecked flow of the entire discharge from unsatisfactorily operating water treatment plants. The availability of tap water in the entire rayon is less than 40 percent, meaning that a new alarm could be sounded there at any moment. But Rayon Executive Committee Chairman T. Atamyrzayev stood at the podium calmly, and he laid all of the blame on the builders, who he alleged were damaging the pipeline network during erection of new facilities. He was also generous with promises "to rectify the situation in a short time." But precisely how short this time would be, and how long the residents of Dzhany-Dzholskiy Rayon would have to drink contaminated water, remained unclear.

Nor was there any hint of concern for the health of people under his care in a penitent speech given by S. Kulanbayev, the chief executive of Toktogulskiy Rayon. Here as well, by the way, the situation is quite unfavorable: Fifteen cases of typhoid fever and 33 of brucellosis. The latter indicator, by the way, is the highest in the republic (which in turn holds the disappointing first place in the country for this disease). One of the reasons for this is that same water unfit for drinking. Out of 30 population centers in the rayon, only 17 have centralized water supplies, but even the existing water mains are being operated with blatant deviations from public health norms. Brucellosis control measures are being implemented extremely unsatisfactorily in the rayon: In the race to satisfy planning indicators, no mention is being made of the susceptible farms, and sick animals are allowed to stay in the herds, contaminating healthy animals. This same "zealousness" is also responsible for the stubborn refusal to immediately relocate animal farms that contaminate nearby water sources with their animals. And this is all because Comrade Kulanbayev knows from experience that he would be punished, and severely at that, if any animals died, while if people fell ill, even if he were held accountable, he would not be punished very strictly. He managed to get out of it this time as well by displaying just mild concern. And following the example of his colleague from Dzhany-Dzholskiy Rayon, he was not miserly with his promises to "initiate a wide struggle to improve the epidemiological situation" as soon as he returned to his rayon.

It seems as if members of the extraordinary commission who came together in the extraordinary situation believed both orators. Taking some "mitigating" circumstances into account, they only gave them a "strict warning" that such violations would not be permitted henceforth. Even M. Mamyrbayev, chairman of the Panfilovskiy Rayon consumers' union, basically avoided the severe punishment he deserved: He was allowed to submit a self-initiated letter of resignation. Consequently there is no one now to hold answerable for the extraordinary incident that occurred at the fault of workers of his service. It became known, you see, that the local cooperative trade organization accepted the meat of sick young cows without the veterinary certificate that

could have reliably prevented this outrageous outbreak of anthrax. Instead, criminal official carelessness prevailed, producing its unwitting victims—severely ill people. Nor is there any assurance that the epidemic will come to an end with this: Its focus has not yet been contained, and over a ton and a half of sausage made from the contaminated meat was trucked to the city of Frunze.

This unprecedented case of the return of an insidious human disease after an almost 40-years' absence is yet another very substantial indication of the indifference that has befallen the republic's veterinary service. The alarm was first sounded not by its representatives but by local doctors. This is despite the fact that the Kirghiz SSR State Agricultural Committee possesses an entire scientific-production association, Veterinariya, which includes an entire institute with an enormous staff of scientific workers and local branches. No practical use is being made of the numerous discoveries of scientists and accomplishments of highly experienced practical workers. They are of no help to modernizing the sector: Work is going on here in the old way. The only thing new here is the complete indifference locally to the epidemic situation that has evolved: Efforts aimed at preventing disease and revealing and treating sick animals have been left to their own in almost all places, which ultimately means infection of people. And while publicly owned animals are under observation—poor as it may be, the herd in the private sector remains completely without the attention of veterinary specialists. Owners of sick animals don't even know that in case of misfortune, they would be compensated for their losses by social insurance. And so the owner of a sick heifer seeks a convenient opportunity to illegally sell its meat. And as the last case showed, the universal unpunished indifference allows him to get away with it.

The virus of indifference.... It has strongly afflicted not only the executives but also the executors of their will in a number of the republic's ministries and departments, upon whom the well-being of Kirghizia's citizens depends primarily. It is precisely wherever the Ministry of Housing and Municipal Services and territorial soviet organs are dragging their heels in solving social and personal problems, as foreseen in the republic's "Health" target program, that typhoid fever and dysentery flourish. Certain local Ministry of Trade and consumer cooperative outlets have become real breeders of viral hepatitis, salmonellosis and acute intestinal infections. The negligence of the veterinary service brought

about an outbreak of a long-forgotten, insidious disease. It was revealed in passing during investigation of this incident that Panfilovskiy Rayon contains another 26 districts in which anthrax once raged! Of course, these centers of disease are currently contained. Today, the fact that they ever even existed could be determined only from a disease control plan that everyone has forgotten about. In real life, there is nothing there to remind us of them—no warning signs, none of the mandatory fencing.

Closing the meeting over which she was presiding, Kirghiz SSR Council of Ministers Chairman Zh. Tumenbayeva suggested that henceforth, only one currently urgent issue should be brought up for discussion by the extraordinary epidemic control commission at any one time, rather than saving them up and examining them all together after yet another extraordinary incident. Because, she complained, not only anthrax but also other infectious diseases came up for discussion at this meeting, and other unfavorable regions were brought up after Panfilovskiy Rayon. It is obviously for this same reason that all of the lengthy discussion never dug deep, and consequently there would be little benefit from it.

#### **Anthrax Outbreak in Turkmenia**

91WE0029A Moscow SELSKAYA ZHIZN in Russian  
4 Oct 90 First Edition p 1

[Article by G. Kolodin: "Anthrax in Turkmenia"]

[Text] Rumors are overwhelming Ashkhabad and its environs: An anthrax epidemic is raging in the republic. Fresh meat cannot be eaten. Lines for it disappeared instantly in the markets of the Turkmenian capital.

Where there's smoke, there's fire. Deaths of cattle and small farm animals have recently grown in frequency in a suburban livestock farm, the State Breeding Farm imeni Devyat Ashkhabadskiye Komissary. Laboratory tests showed that this was the result of outbreaks of an infectious disease in animals, called anthrax since time immemorial. Five persons have been hospitalized. They are in satisfactory condition.

"But there are no grounds for panic," feels B. Charyyev, chief physician of the republic's epidemiological station. "The anthrax focus has been contained. A quarantine has been imposed. The farms and equipment are undergoing mass disinfection. All persons coming in contact with farm animals by the nature of their work have been examined. All meat offered for sale is being subjected to meticulous inspection."

## CANADA

### Sexually Transmitted Disease Level Rising Among Young Women

91WE0138 Toronto *THE GLOBE AND MAIL*  
in English 27 Nov 90 pp A1, A2

[Article by Rod Mickleburgh; Health Policy Reporter]

[Excerpts] Vancouver—Sexually transmitted diseases have reached a staggering level among female teenagers in Canada, the director of a federal advisory committee says.

The infections are costing Canadians "astronomical" amounts of money, Barbara Romanowski told the Royal Commission on New Reproductive Technologies yesterday.

She said \$200-million is spent in Canada every year just for the treatment of pelvic inflammatory disease and ectopic pregnancies, which are generally caused by PID.

She said there's a desperate need for better and earlier sex education in Canadian schools.

She said the rate of STDs is increasing among teen-aged women because "they're the most sexually active group. Yet they don't feel they're vulnerable or at risk.

"It's the teen-age mentality," said Dr. Romanowski, director of the expert advisory committee on sexually transmitted disease for the federal health and welfare department.

She told the commission that women between 15 and 19 have the highest rate of gonorrhea of all age- and sex-specific groups in the country.

Laboratory studies indicate 73 percent of all chlamydial infections are found in the same group.

Dr. Romanowski said an Alberta study found the rate of chlamydia among teen-aged girls to be 2,529 per 100,000 population.

"That's a staggering figure," she declared.

"But despite the astronomical costs, very little is being spent on prevention."

Dr. Romanowski said sex education should begin in public school.

"Because by the time they get to high school, maybe 50 percent of them are already sexually active.

"They need basic information at an early age. Then, as they get older, we can give them more sophisticated information."

A significant minority of Canadians still resist the need for public sex awareness, she said.

She said another need is a standardized, national survey of STDs in Canada every five years.

Dr. Romanowski said a real problem in collecting information on the prevalence of STDs is the wide range of reporting levels in different areas.

She said gonorrhea rates in the Northwest Territories, for instance, are "grossly overreported" by as much as 1,000 percent, because of poor laboratory facilities.

"But in the Maritimes, it seems there are almost no STDs and few cases of gonorrhea.

"Well, nobody buys that. Again, it's a problem of surveillance and the way cases are reported."

Like many previous witnesses, Dr. Romanowski told the commission that very little money spent in preventions of STDs, which often lead to infertility, could save millions of dollars spent on new reproductive technologies by infertile women trying to have children.

"It would be extremely cost-effective as well as decreasing human suffering."

## IRELAND

### Paper Reports Problems With Cow Diseases

#### Fight Against Tuberculosis

91WE0176A Dublin *IRISH INDEPENDENT*  
in English 13 Dec 90 p 15

[Article by Willie Dillon]

[Text] Some L670m has been spent by the State over the years in the still unsuccessful attempts to rid the country of bovine TB, including administration costs, the Daily Public Accounts Committee was told yesterday.

But Department of Agriculture Secretary Michael Dowling said proposed changes in the existing scheme next year should result in a significant drop in the incidence of the disease from 1993 onwards.

He said the cost of trying to eradicate TB up to the end of 1989 was L453m. Last year a further L48.5m had been spent. Administration costs were around L170m.

However, Mr. Dowling pointed out the net cost of the scheme to the Exchequer had been L284m as a result of money paid from several different sources. This included L112m in farmer levies, L52m from the sale of reactor animals when that was the system and L12m from the EC in the early 1980s.

A total of L233m had been paid out in reactor compensation to farmers, L154m on vets fees, and L73m on equipment and travel.

Mr. Dowling said the principal reason why the disease had been difficult to eradicate was that they had not been removing all the sources of infection. They were not

getting all the reactors of infected wildlife, while another problem was the movement of cattle.

All of these matters were now being tackled. If they succeeded in taking out all the reactors and getting on top of the infected wildlife problem, the back of the problem should be broken.

He wanted to confirm once and for all that the badger was a significant source of infection in some areas of the country, and their control was necessary in those parts. But he did not believe that badger TB was a major cause of the problem.

"It is only one of a number and it would not be anywhere near the top of the list."

Mr. Dowling said that if ERAD achieved its target next year of taking out 50,000 reactors, they would have difficulty in staying within budget. But if the EC accepted restructured 1991 program, it should pay 50 p.c. of farmer compensation costs. This could be worth L16 to L20m., depending on the numbers taken out.

#### More 'Mad Cow Disease'

91WE0176B Dublin IRISH INDEPENDENT  
in English 3 Dec 90 p 11

[Article by Willie Dillon]

[Text] A new case of BSE has been confirmed in the Republic, bringing the total number discovered here since the disease was first identified to 26.

The latest case was in a beef animal from Co. Kerry and the discovery was made at a slaughtering plant in Cork.

Reacting to the news, Agriculture Minister Michael O'Kennedy said the rate of new BSE cases coming to light this year confirmed his Department's belief that the disease was waning. There had been only 11 cases this year, compared to 15 last year. "All the indications are that we are seeing a significant reduction in the trend all the time."

The minister and his officials are continuing to stress that none of the BSE cases found in the Republic have been native to this country. And they say the numbers are insignificant compared with the 20,000 cases reported to date in Britain.

The Department has been particularly sensitive about the possibility of any new BSE outbreak since the arrival here last week of a group of Libyan vets who aim to satisfy themselves that it is safe to buy Irish cattle.

Meanwhile agricultural sources were skeptical last night about reports linking the death of a young farmer with the illegal animal drug Clenbuterol, also known as "Angel Dust".

Farmers, especially those with respiratory problems, face grave risks while administering the powder to cattle. Clenbuterol converts fat to muscle—adding L100 to the value of a beef carcass.

In a front-page story The Sunday Times has linked the IRA and organized crime elements to the multi-million-pound racket and suggested that some Irish beef on British supermarket shelves might be contaminated.

## ITALY

### Dengue Fever Mosquito Identified in Genoa

91WE0170 Milan L'UNITA in Italian 21 Dec 90 p 18

[Article by Cristiana Pulcinelli: "The Tiger Mosquito Has Arrived: It Carries Dengue Fever"]

[Text] It would look like an ordinary mosquito were it not for its very dark coloring and the white spots that cover its body and legs. Known as the "Asiatic tiger mosquito," it seeks out human beings in particular, stinging them even in broad daylight. It is widely distributed in Asia, where it transmits certain viruses and filariae such as the virus of the tropical disease known as dengue fever. Now, however, it has been identified in Italy as well, in Genoa. This was revealed in a report published in the RIVISTA DI PARASSITOLOGIA [Parasitology Review] by Mario Coluzzi, director of the Parasitology Institute of the University of Rome. The information came from a group of women teachers at a nursery school who in September had observed some white-spotted mosquitoes biting the small children in broad daylight. "In less than 24 hours," says Mario Coluzzi, "the timely and efficient investigation by USL 13 [Local Health Unit 13] was under way, and two days later the work of disinfection began. A sample of the mosquitoes was sent to the Doria Historical Museum and subsequently to the Higher Institute of Health and on to us. The bites were without consequence. "In our country," Coluzzi says, "the spread of diseases such as dengue fever can occur only if cases of infection already exist, and there is no evidence that this is the case." The arrival of the mosquito is cause for concern, however, because it could increase the possibility of the transmission of some viruses. "The tiger mosquito is native to Southeast Asia," Coluzzi says, "and our country was previously believed to be protected from these tropical species because of our winter, inasmuch as these species were incapable of hibernation and therefore had no capacity to create quiescent stages. This mosquito subsequently spread to the north and arrived in China and Japan, where it developed the ability to hibernate." In 1986 it also arrived in the United States, apparently in used tires imported from Japan. "Mosquitoes usually live in water-filled cavities of tree trunks, but they have found an excellent habitat in tires which are left in the open and fill up with rainwater," Coluzzi explains. "The eggs are deposited on the sides of the tires and remain

attached even when the container is emptied for shipment of the tires. When the tires arrive at their destination, they are often stored in the open. In this way they again fill up with water, enabling the eggs to hatch. In an urban environment mosquitoes can also live in small fountains, jars, and cans and also in the trunks of holm oaks, deciduous oaks, and planer trees, all of which are trees found in our cities." Italy is the first country in West Europe in which this mosquito has been observed, except for a sighting made three years ago in Albania. This could induce fear that the mosquito may spread to the upper Mediterranean, although at the moment the extent of the focus of infection is not known. "We will have to wait until the eggs hatch in the spring to see whether there are other avenues," Coluzzi says. "There is plenty of time to organize working groups capable of coping with any possible spread of this mosquito in the near future."

## PORTUGAL

### August Figures for Infectious Diseases

91WE0097A Lisbon *DIARIO DE NOTICIAS*  
in Portuguese 5 Nov 90 p 21

[Text] Reportable transmissible diseases affected over 1,000 Portuguese in August, according to the General Directorate of Primary Health Care.

The published data, which have reference to the entire national territory with the exception of the Azores, reveal that 514 males and 511 females were stricken with 44 diseases.

In comparison with August of last year, however, the number of individuals stricken with reportable diseases declined from 1,132 to 1,025.

So-called tick fever (nodular eschar), which affected 618 persons, continues to head the list of transmissible diseases considered reportable by the World Health Organization.

According to a physician at the Castelo Branco Health Center, that disease is seasonal in nature.

The Coimbra and Guarda Districts were those reporting the most cases—90 and 72, respectively.

Brucellosis, which is caused by ingesting contaminated fresh milk or cheese made with such milk, affected 87 persons, with the largest number of cases being located in the Evora District (13) and the Braga District (12).

The various types of hepatitis—caused by virus A and B or an unspecified virus—affected 104 individuals, with cases being reported in every district except Portalegre.

Cases of parotitis, better known as mumps, and typhoid and paratyphoid fever were recorded in significant numbers—54 and 43, respectively. All the diseases included in the WHO's classification must be reported by the physician.

It should be emphasized that, although tuberculosis is included on that list, the statistics quoted do not include data relative to the various forms of that disease, which is the responsibility of the Directorate of Tuberculosis and Respiratory Disease Services.

In general terms and according to the same source, the number of cases doubled between 1987 and 1989, but what that indicates is not an increase in transmissible diseases but rather an increase in the number of cases reported.

Syphilis, gonococcal infections, and other sexually transmitted diseases are greatly underreported, making any interpretation of the related data difficult.

In addition to those already mentioned, the following are also on the list of reportable diseases: anthrax, diphtheria, whooping cough, scarlet fever, meningitis, tetanus, measles, malaria, soft chancre, echinococcosis, and trichiniasis.

From 1985 to 1989, the total number of diphtheria cases dropped from 51 to a single case. During the same period, the number of cases of whooping cough rose from 54 to 274.

### High Risk of Hepatitis B Infection

91WE0145A Lisbon *EXPRESSO* in Portuguese  
15 Dec 90 p A20

[Article by Orlando Raimundo]

[Excerpts] Geneva—Portugal is one of the European countries in which the problem of hepatitis B is most worrisome, and, along with Greece, in which prevention has been most neglected. This conclusion was made known in Geneva, where the European conference on this disease, attended by 200 nurses from 23 countries, was held this week.

Although the absence of statistics from Portugal prevents experts and students of the disease from making categorical statements, the assertion that our country is one of the European "red-light districts" seems to offer little justification for doubt.

### "Danger Region" Includes Portugal

Mark Kane, the representative of the World Health Organization (WHO) at the conference in Geneva, explained that hepatitis B affects more than a million individuals every year. Portugal is a part of the "danger region" in Europe, according to this expert, along with the other Mediterranean countries—Spain, Greece, and Italy. The WHO estimate of chronic carriers for this region is not very accurate, with the index ranging from 1 to 5 percent. [passage omitted]

### Vaccination Contemplated

Portugal, then, is among the European countries in which the virus is continuing to make progress. Out of a

population of 10 million, 3 million are believed to have been exposed to the virus, and 150,000 are very likely chronic carriers.

With an estimate of 10,000 new cases per year, it is possible to predict 500 deaths from acute hepatitis, and that there will be 1,000 chronic carriers. Of these individuals, another 17 will die of cirrhosis of the liver and 40 of liver cancer.

In view of this reality, the minister of health has promised to make some decisions in the first quarter of the coming year. And he stated that it was not until the end of last month that he had in hand the special report ordered by Leonor Beleza. Arlindo de Carvalho told *ESPRESSO* that the free vaccination of all health professionals, as well as the members of the high-risk groups, will probably constitute the first stage of the planned program, with pregnant women likely to contract the virus being dealt with secondarily.

In the meantime, the minister noted, the vaccine is available on the market at a price in the neighborhood of 5,000 escudos. Its cost will be covered to the extent of 50 percent by the state, through the National Health Service.

### High Rate of Hepatitis B Carriers in Prison

91WE0145B Lisbon *ESPRESSO* in Portuguese  
15 Dec 90 p A20

[Text] A study carried out in Portugal's prisons by experts on infectious diseases from the University of Coimbra hospitals established that 27.7 percent of the inmates are hepatitis B carriers.

This study, during which blood samples were collected, covered the whole of the Portuguese prison population, made up of 8,000 individuals—7,500 men and 500 women—serving sentences in the 37 penal establishments on the continent and in the autonomous regions. The inmates also answered a questionnaire about health conditions in their homes, alcohol consumption, drug addiction, number of sexual partners, sexual preferences, condom use, previous surgery, recent transfusions, hemodialysis, and dental procedures.

The conclusions indicate that the majority of the inmates are nonspecialized workers who are young and single and come from urban homes with sanitary conditions that they describe as good. Alcoholism was admitted by 37 percent of the inmates, and drug addiction by 23.2 percent. Almost half (45.7 percent) had recently undergone dental procedures.

Sexual promiscuity appears to be the most important risk factor in view of the fact that 38 percent of the inmates admitted having had more than three sexual partners, and 2.5 percent admitted to homosexuality or bisexuality. Only a small number (2.7 percent) said they used condoms regularly, and 17 percent said they used them occasionally.

## UNITED KINGDOM

### Zoo Death Sparks New Fears Over BSE

91WE0177 London *THE DAILY TELEGRAPH*  
in English 14 Dec 90 p 2

[Article by David Brown and Jenny Rees]

[Text] The death of a young antelope at London Zoo from a disease remarkably similar to BSE, or Mad Cow Disease, was confirmed yesterday by the Ministry of Agriculture, which tried to play down the significance of the incident. But experts are alarmed because the animal's mother had earlier died from suspected BSE.

It indicates that the incurable disease could be spread from adult to offspring rather than being picked up by eating contaminated animal food, the main cause according to accepted scientific knowledge.

BSE—bovine spongiform encephalopathy—has so far killed or caused the destruction of 21,237 cattle in Britain and came close earlier this year to causing severe damage to Britain's beef industry.

The disease is thought to be related to scrapie, an incurable brain disease of sheep which is believed to have spread to cattle through animal food containing the processed remains of dead sheep.

It is known that scrapie can pass from ewe to lamb, but so far there has been no proof that Mad Cow Disease passes from adult cattle to their calves, and the Ministry of Agriculture, backed by a Commons Select Committee report, has found that there is no evidence that people can catch an incurable brain disease by eating beef.

Nevertheless, the latest findings on the 19-month-old Greater Kudu will be another blow to the meat industry because it shows that the transmission of this brain disease from mother to offspring in a species does happen.

Mr. Gummer, Agriculture Minister, gave the results when answering a question in the Commons from Mr. Ron Davies, Labor MP for Caerphilly, who asked about detailed scientific tests being carried out on the animal at the Central Veterinary Laboratory near Weybridge, Surrey.

A statement yesterday from London Zoo added: "Since the 19-month-old female kudu 'Karla' was born after the ban on inclusion of ruminant protein in ruminant diets in July 1988, it seems likely that the disease was transmitted to it by its mother."

London Zoo said that the kudu, a member of the African antelope family, had been put down after showing severe signs of unsteadiness on its feet, similar to those shown by its mother, which died in the summer of last year.

To date, six cases of spongiform encephalopathy have been reported in zoo ruminant (cud-chewing) animals.

At London Zoo, the disease has been found in two kudu and an Arabian oryx, at Marwell Zoo in a nyala and a gemsbok, and there was been one case at Port Lympne Zoo in an eland.

The kudu group at London Zoo is part of a jointly-managed herd, with individuals kept also at Whipsnade and at Marwell, near Winchester.

A London Zoo spokesman said: "Close veterinary surveillance of these animals and other zoo ruminants that may have been exposed to contaminated feedstuff in the past will be maintained.

"Careful consideration of any likely risk of transmission of the disease will be given before any animal is moved. There is no risk to domestic livestock as the non-domestic species are kept in a limited number of centers."

The details of the kudu's death came as Mr. Mike Cowan, chairman of BOCM Silcock, Britain's largest animal food company, complained that the Government was not doing enough to monitor the quality and safety of the ingredients going into animal food.

Mr. Cowan said that while the major animal food companies were being closely monitored when they were mixing special rations for animals, there were no controls over individual ingredients like soya and imported fishmeal from South America, which could bypass the Government controls and then be fed to livestock at cut prices.

These rations could be contaminated with salmonella, but there was no way of checking this, he claimed.

He said: "We would be happier to see a greater commitment from the Ministry of Agriculture to apply regulations to all parts of the food chain."

### Virus Fatal to Rabbits Spreads

91WE0189 London THE DAILY TELEGRAPH  
in English 9 Jan 91 p 4

[Article by David Brown]

[Text] A virus killing hares in Britain has been linked to one that wiped out thousands on the Continent.

East Anglia has been particularly affected by the virus, which has killed so many hares in some areas that they have had to be ploughed into fields.

Stricken hares develop high temperatures, breathing difficulties and internal bleeding. They also tend to lose their fear of people and can be approached easily.

Those which run off in panic often drop dead in flight.

Symptoms of European Brown Hare Syndrome are similar to those caused by Rabbit Viral Sudden Death, a disease discovered in China in 1984 which has been sweeping through Europe.

Britain has remained clear of the rabbit disease, sometimes known as X disease or viral haemorrhagic disease, which wiped out 40,000 commercial rabbits in one outbreak in Mexico. Ministry of Agriculture experts say there is no evidence that rabbits in the wild can catch the hare virus.

Farmers fear that the rabbit version could enter the wild population and spread to commercial rabbit farms.